BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAI'I

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| In the Matter of | ) | |
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| PUBLIC UTILITIES COMMISSION | ) | Docket No. 2009-0108 |
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| Instituting a Proceeding to Investigate Proposed Amendments to the Framework for Integrated Resource Planning. | ) | |



HAWAII SOLAR ENERGY ASSOCIATION'S
FINAL STATEMENT OF POSITION

ATTACHMENT A

ATTACHMENT B

CERTIFICATE OF SERVICE

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ASSOCIATION

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Pursuant to this Commission's Order Approving the Stipulated Procedural Order, As Modified, filed on September 23, 2009 ("9/23/09 Order"), as amended by the Order Amending Schedule filed on November 5, 2009, Hawaii Solar Energy Association ("HSEA"), by and through its counsel, Earthjustice, submits the following final statement of position ("FSOP"). Since the filing of preliminary statements of position ("PSOPs") on October 2, 2009, the parties have engaged in further discussions, exchanged information requests ("IRs") and responses ("IR Responses"), and received the paper on scenario planning by the National Regulatory Research Institute ("NRRI Paper") and filed responses thereto ("NRRI Responses"), all of which have provided helpful insight on the issues in this docket. This FSOP incorporates elements from HSEA's preliminary statement, as further developed through this process.

Moreover, pursuant to the Commission's direction that "the starting point [for this docket] should . . . be the existing commission-approved IRP Framework,"

9/23/09 Order at 5, HSEA has worked with other parties to develop a "Joint Proposed Framework" incorporating the parties' proposed revisions of the IRP Framework. HSEA supports the Joint Proposed Framework (or "Joint Framework proposal") as a fundamentally sound proposal to update and strengthen the existing Framework for Integrated Resource Planning ("IRP Framework") in a manner that is reasonable and in the public interest and advances the overall goal of planning, promoting, and achieving a clean energy future in Hawai'i.

HSEA emphasizes that this proceeding is still ongoing, and further information and continued discussions may facilitate the refinement of the issues and the parties' positions and proposed frameworks. HSEA thus respectfully conditions this FSOP based on this understanding.

## I. BRIEF BACKGROUND

More than 17 years ago, the Commission established IRP Framework in Docket No. 6617, Decision and Order No. 11523, filed on March 12, 1992, as amended by Decision and Order No. 11630, filed on May 22, 1992. As the Commission recently observed, "[t]he IRP Framework was the result of a collaborative process and has been the model for utility planning in Hawaii for over a decade." In re Hawaiian Electric Company, Inc., Docket No. 2007-0084, Order Closing Docket, filed on November 26, 2008, at 5.

On October 20, 2008, the Governor, Department of Business, Economic Development and Tourism ("DBEDT"), and Division of Consumer Advocacy, Department of Commerce and Consumer Affairs ("CA") of the State of Hawai'i

(collectively, the "State"), and Hawaiian Electric Co., Inc., Hawaii Electric Light Co., Inc., and Maui Electric Co., Ltd. (collectively, "the HECO Companies") entered into an "Energy Agreement" seeking to move Hawai'i away from imported fossil fuels and to 70 percent clean energy use by 2030. Section 33 of the Energy Agreement called for the "replace[ment] of the [IRP] process with a new Clean Energy Scenario Planning (CESP) process."

On November 6, 2008, the HECO Companies requested the Commission to close their pending IRP dockets, Docket Nos. 2007-0084, 04-0046, and 04-0077, to allow the HECO Companies to develop the new CESP process. The Commission granted the request in separate orders filed on November 26 and December 8, 2008. Also, on February 18, 2009, the Commission issued an order in the IRP docket of Kauai Island Utility Cooperative ("KIUC"), Docket No. 2006-0165, denying KIUC's request to suspend the docket and instead closing the docket and directing KIUC to participate in the process of developing the CESP framework.

On April 28, 2009, the HECO Companies, KIUC, and the CA sent a letter to the Commission requesting the Commission to open a new investigatory docket on a proposed "Clean Energy Scenario Planning Framework" ("CESP Proposal" or "HECO's proposal"). On May 14, 2009, the Commission issued its order initiating this docket. After the Commission granted various parties intervention, the parties submitted a proposed stipulated procedural order and held several informal discussions on HECO's proposal.

On September 23, 2009, the Commission issued its order approving a modified procedural order. The order emphasizes that "the starting point [for this docket] should . . . be the existing commission-approved IRP Framework." 9/23/09 Order at 5. Accordingly, the Commission framed the issues presented herein as follows:

> 1. What are the objectives of CESP and how do they differ from the objectives of IRP?
>
> 2. What is the basis for each of the proposed changes to the IRP process, and are these changes reasonable and in the public interest?
>
> 3. Whether the proposed changes to the IRP process should include changes to reflect differences between electric cooperatives and investor owned utilities?
>
> 4. What should be the role of the state's public benefits fee administrator?

Id. at 5-6.

On November 3, 2009, the NRRI issued its paper summarizing the scenario planning concept and inviting the parties to answer 13 questions in discussing their proposed frameworks in their FSOPs. The parties filed responses to the NRRI Paper on November 23, 2009. The parties also exchanged IRs and IR Responses on November 10 and November 25, 2009, respectively.

## II. DISCUSSION

### A. Question No. 1: What Are The Objectives Of CESP And How Do They Differ From The Objectives Of IRP?

Preliminarily, while CESP is the term used by the HECO proposal, HSEA understands this docket as encompassing a more general investigation of potential amendments to the IRP Framework. See 9/23/09 Order at 5. To this end, HSEA has

worked with other parties to develop a Joint Proposed Framework incorporating the parties' proposed revisions of the IRP Framework. In addressing the first question the Commission framed, HSEA discusses the Joint Proposed Framework and the HECO Companies' CESP Proposal.

1. Background on the objectives of IRP and subsequent developments.

HSEA and the other parties have all described in similar terms the background, history, and recent developments surrounding IRP, which HSEA will summarize here. In basic terms, IRP is a planning and decision-making process for the purpose of meeting energy demand while fulfilling various identified objectives. See C. Freedman & J. Lazar, Hawaii Energy Utility Regulation & Taxation: Practice, Policy & Incentives for Energy Efficiency, Renewable & Distributed Energy Resources: A Report for the Hawaii Energy Policy Project 85 (2003) 83-84 ("HEPP Report"). IRP differs from "traditional" energy planning, which focused on only expanding centralized supply capacity to meet demand. Id. Instead, IRP "integrates" additional considerations into a more comprehensive planning perspective. These include:

- Resources: IRP considers on an equal basis a full range of resources, including "demand-side" resources such as energy efficiency and load management, as well as distributed and non-utility generation.

- Costs and Benefits: IRP considers a full range of costs and benefits, beyond the perspective of just the utilities and ratepayers, such as societal, cultural, and environmental factors.

- Public participation: IRP incorporates a full range of perspectives through an open and transparent process that allows participation and input by the public, including non-utility stakeholders and experts.

Id.

The existing IRP Framework states: "The goal of [IRP] is the identification of the resources or the mix of resources for meeting near and long term consumer energy needs in an efficient and reliable manner at the lowest reasonable cost," id. § II.A (emphasis added); and "The ultimate objective of a utility's integrated resource plan is meeting the energy needs of the utility's customers over the ensuing 20 years," id. § IV.B.1 (emphasis added). The IRP Framework also allows both the utilities and the Commission to specify other objectives, giving an example of "the achievement of lowering to a specified level of the use of imported oil." Id. § IV.B.2.

Since the IRP Framework's adoption in 1992, Hawai'i has embarked on a major paradigm shift towards a clean energy economy. Whereas IRP sought to include due consideration of alternative resources and externalities in planning, the law now expressly mandates renewable energy and energy efficiency gains in the Renewable Portfolio Standards ("RPS") and Energy Efficiency Portfolio Standards ("EEPS") in Act 155, 2009 Haw. Sess. Laws 462, and the greenhouse gas pollution reductions ("GG Cap") in Act 234, 2007 Haw. Sess. Laws 697 (codified in Haw. Rev. Stat. ch. 342B, pt. VI). The Energy Agreement similarly expresses a commitment to "move more decisively and irreversibly away from imported fossil fuel for electricity and transportation and towards indigenously produced renewable energy and an ethic of energy efficiency," and "from central-station, oil-based firm power to a much more renewable and distributed and intermittent powered system," identifying a "goal of 70 percent clean, renewable energy for electricity and transportation by 2030." Id. at 1, 18.

In addition to these substantive mandates and goals, the role of the utilities has been evolving. Some examples of such change are the establishment of an independent Public Benefits Fee Administrator ("PBFA") to assume the responsibility to implement demand-side management programs, and the overall trend towards decentralization and deregulation of the energy industry as reflected in, and driven by, developments such as the rapid growth of distributed generation ("DG") across all of the state's utilities and the establishment of net energy metering and feed-in tariffs. This expansion of DG, especially as delivered by solar photovoltaics, is one of the most important changes since IRP's adoption. The movement of generation to the distribution level highlights the need to plan for generation at multiple levels, and for power flows in multiple directions, as opposed to the one-dimensional concept of distribution from a central station perspective.

2. Difference in objectives between IRP the proposed frameworks.

The key difference in objectives between the proposed frameworks and the existing IRP Framework -- and, indeed, the very reason for this and other proceedings presently before this Commission -- stem from the need and legal mandates to move Hawai'i off of fossil fuels and on to indigenous, clean energy resources. In focusing on least (reasonable) cost planning, the IRP Framework does not establish any clean energy objectives, although it does allow for the adoption such objectives, specifically noting that "the utility may set as an objective the achievement of lowering to a specified level the use of imported oil." Id. § IV.B.2. Yet, in the 17-year history of the IRP Framework, the utilities have never pursued such objectives. As a direct result of this failure to

address the broader societal needs of energy independence, all parties' proposed frameworks now expressly incorporate "clean energy objectives" as a primary focus of the planning framework. See Joint Proposed Framework pt. I; CESP Proposal pt I. This change represents a purposeful break from past IRP practice and the overriding difference between the proposed frameworks and the IRP Framework.

Both proposed frameworks also incorporate the concept of scenario planning. HECO's proposal goes further to incorporate it in its name, "clean energy scenario planning." This proposed term, as well as discussions on the concept, tend to lump scenario planning and clean energy planning together. As HSEA has emphasized, however, while scenario planning can facilitate clean energy planning, the two are ultimately separate concepts. HSEA's NRRI Response at 1-2, 4-6. In other words, clean energy does not necessarily follow from scenario planning, nor do clean energy goals necessarily require scenario planning. Indeed, while the purpose of scenario planning is to address uncertainty, Hawai'i has effectively removed two key uncertainties by establishing the RPS/EEPS and GG Cap, both of which are among the most commonly cited major contingencies that require scenario planning. In sum, scenario planning should not be viewed as an end-all or "objective" of the planning framework, but rather as merely one means to help achieve the framework's clean energy objectives.

B. Question No. 2: What Is The Basis For Each Of The Proposed Changes To The IRP Process, And Are These Changes Reasonable And In The Public Interest?

1. Summary of necessary changes to the IRP Framework.

Review of the IRP Framework and its history and practice and the discussions in this docket indicate several main areas where changes to the IRP Framework are most needed:

1) The need for clear and purposeful clean energy goals, principles, and objectives and prompt and effective achievement of those objectives.

2) The need for a rigorous, yet at the same time timely and flexible, planning process that provides meaningful and up-to-date guidance for utility actions and commission decisions.

3) The need for a broadly inclusive public process to ensure transparency and accountability, promote mutual collaboration between the utilities and non-utility stakeholders, and build broad-based public awareness and support.

In the following discussion, HSEA reviews the Joint Proposed Framework[1] and highlights how it addresses these needs and, therefore, is reasonable and in the public interest. HSEA also responds to the questions the NRRI posed on the proposed frameworks.

2. Clean energy goals, principles, and objectives.

As discussed above, the existing IRP Framework failed to establish, let alone, achieve, any clean energy objectives. The Joint Proposed Framework modifies the IRP

[1] The parties have discussed but deferred the issue of the appropriate name to give the revised framework and its plans; at this time, the Joint Proposed Framework continues to use the terminology of "integrated resource planning and plans," but uses the term "action plan" instead of "implementation plan" to describe the specific, shorter-term (5 to 10 year) plan.

Framework expressly to incorporate clean energy objectives as a centerpiece of the planning process. Specifically:

- The definition of "clean energy" adopts the statutory definitions under the RPS/EEPS law, Haw. Rev. Stat. § 269-91. See Joint Proposed Framework pt. I.

- The definition of "clean energy objectives" makes clear the purpose of "moving the State of Hawai'i off of fossil fuel use" and incorporates all pertinent laws, including the RPS/EEPS. Id.

- The Joint Proposed Framework establishes "achieving and exceeding Clean Energy Objectives" as part of its overall goal, id. § II.A, governing principles, id. § II.B.9, and the ultimate objective of integrated resource plans, id. § IV.C.1.

- Moreover, to advance these fundamental clean energy goals and provide benchmarks to measure progress, the Joint Proposed Framework requires the identification of meaningful planning objectives in the long-term (20-year) integrated resource plan as well as more specific, shorter-term objectives in the (5-10 year) action plans. Id. § IV.C.2.

In addition to establishing clean energy objectives, the Joint Proposed Framework provides better direction for clean energy planning by clarifying and strengthening the IRP Framework's governing principles, id. pt. II.B. For example, the integrated resource plans must:

- consider technological advances in the utility's transmission and distribution infrastructure (e.g., smart grid and storage) and must address technical barriers to achieving clean energy objectives. Id. §§ II.B.4, 15.

- prioritize resource acquisition and integration such that demand-side management and renewable resources are first optimized before consideration is given to fossil-based resources.

  Further HSEA Comment: HSEA would also support inclusion of a principle encouraging the affirmative retirement of fossil-fuel based plants.

- prioritize and encourage the increased use of distributed generation ("DG") over centralized fossil-based generation.

  Further HSEA Comment: While HSEA recognizes that DG in general may be favorable compared to centralized fossil fuel-based generation, this principle especially applies to renewable DG and may be further refined to make this clear.

These changes are reasonable and in the public interest because they provide a sound goal-oriented framework necessary for planning, promoting, and achieving a clean energy future in Hawai'i.

3. Timely and flexible, yet rigorous planning process.

Various parties have raised concerns regarding the slow, unwieldy, and "stop-and-go" nature of the current IRP process, such that integrated resource plans are already out-of-date by the time they are completed. On the other hand, the original intent that integrated resource plans provide rigorous and vetted analysis for utility actions and commission decisions remains valid. Notwithstanding the need for flexibility, plans should not be so light-weight or changeable at will that they lose any meaning; otherwise all parties in the planning process would be better served spending their time and resources elsewhere.

It bears emphasis that the incorporation of scenario planning in both the Joint Framework proposal and HECO's proposal partly addresses the problem of out-of-date plans. See Joint Proposed Framework pt. IV.A. By systematically considering major uncertainties and minimizing risk across various alternate futures, scenario planning in concept should produce plans that are more "flexibile" to changing conditions and less likely to become obsolete.

The HECO proposal, however, appears to equate scenario planning with a less rigorous process that calls for deleting many requirements of the existing IRP Framework. On the contrary, as many parties have pointed out, scenario planning is not fundamentally different from the existing IRP Framework, nor is it inherently less rigorous. See, e.g., HSEA's NRRI Response at 3-4.[2] As with the distinction between clean energy planning and scenario planning, discussion of scenario planning should maintain a clear distinction between scenario planning and any proposed shortcuts in the existing process.

The Joint Proposed Framework proposes various revisions to the IRP Framework that HSEA believes strike a fair and workable balance between the needs for rigor and accountability on the one hand, and timeliness and flexibility on the other. In summary:

- Initially, the planning process retains the general structure and many of the "nuts and bolts" details of the existing IRP Framework. This includes the three-year major planning cycle for the development and approval of the integrated resource plan and action plan, as well as many of the provisions regarding the "Planning Docket," Joint Proposed Framework § III.D, and "Planning Considerations," id. pt IV, which still generally apply to utility planning.[3]

- The Joint Proposed Framework expressly incorporates the concept of scenario planning, requiring the development of a sufficient number and range of scenarios, id. § IV.A, and the selection of resource options or strategies that best achieve the planning objectives when considered across the range of scenarios, id. § IV.J.2, 4.

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[2] Indeed, the HECO Companies have recognized this. See HECO Companies IR Responses, HSEA-HECO-IR-6 at 2.

[3] The Proposed Framework deletes the portions of the IRP Framework regarding cost recovery, incentives, and pilot programs for DSM, which various parties point out have been outdated by more recent developments and practice. See, e.g., HDA's IR Reponses at 12-13 (Counties/HDA-IR-2).

- In addition to the traditional forecast of demand, the planning forecasts include additional factors such as demand-side management and distributed generation, much of which lies outside the utility's responsibility and control. Id. § IV.B.2, 3.

- To address the need for timeliness, the Joint Proposed Framework provides that the utility shall maintain an ongoing and up-to-date planning capability and a current, updated action plan, see, e.g., id. §§ II.C.3, 4; III.B.2, 3, and that the Commission may at any time require the utility to provide planning information and analysis from the utilities as necessary for regulatory purposes, see e.g., id. §§ II.D.3; III.B.2.b.

- To address the need flexibility while ensuring that duly approved plans retain meaning and effect, the Joint Proposed Framework requires utilities seeking approval of an action not consistent with the latest approved action plan to justify this departure to the Commission, with the input of the planning docket parties and advisory groups, id. § III.B.3.b, c, or to revise or amend the approved action plan, id. § III.D.4.

For the reasons discussed, such revisions are reasonable and in the public interest because they provide more timeliness and flexibility in planning while maintaining the integrity of the planning process.

4. Meaningful and effective public participation and input.

Every intervenor party in this docket has raised the need for more openness and inclusiveness in the planning process, particularly in the advisory group process. More than five years ago, commentators noted that "the IRP process, including the public advisory group process, is controlled entirely by the utilities" and "[w]ithout active and diligent oversight by the PUC, the IRP process has become largely a utility exercise." HEPP Report at 87. The state DBEDT echoes this evaluation, stating that it "has been a participant in the HECO Companies' IRP advisory group meetings, and observes that the process was neither collaborative, transparent, nor open." DBEDT's IR Responses at 8 (HECO-DBEDT-IR-3).

The need for more meaningful public participation and input are all the more critical now that Hawai'i is embarking on a sweeping transformation to a clean energy economy. Among other considerations:

- Through the planning process, the utilities and the Commission will effectively be charting the course for the State's clean energy policy, ultimately determining whether Hawai'i succeeds in its necessary and legally mandated goal of weaning itself off its harmful dependence on fossil fuels. The stakes are high and broadly affect all the people of Hawai'i.

- Unlike the utility-controlled central station model that dominated historical IRP, the new clean energy paradigm requires cooperation and coordination of many more parties and interests beyond the utilities, including the third-party PBFA, independent power producers, and the rapidly increasing body of distributed generation providers.

- Achieving the long-term benefits of clean energy will require likely near-term sacrifices by Hawai'i's citizenry and a level of commitment far beyond that demanded by historical IRP, which focused primarily on meeting "consumer energy needs ... at the lowest reasonable cost." IRP Framework § II.A; see also In re Public Utilities Commission, Docket No. 2008-0273, Decision and Order, filed on Sept. 25, 2009, at 14 (noting that feed-in tariffs to promote renewable energy may result in "an increase in rates in the short-run").

In outlining its ambitious clean energy goals, the Energy Agreement recognizes the need for "feedback" from the public "to assure that the [plan] is reflecting the public interest" and for a review process that enables the utilities not only to "communicate effectively" to the public, but also "receive effectively" information from the public "that can be integrated into subsequent planning work." Id. § 33(n). The NRRI Paper also emphasizes that scenario planning in particular pursues a broader perspective and thus requires broad-based public participation beyond the "customary players." Id. at 10. These statements reinforce the basic understanding that public participation is

necessary not for its own sake, but to ensure successful clean energy planning and implementation by: (1) enabling broadly informed planning and decision-making; and (2) building public and stakeholder confidence in the process and awareness of and support for clean energy initiatives.

In defending their control over the IRP process, the HECO Companies argue that it is the utilities' responsibility to comply with the laws. See, e.g., HECO Companies' PSOP at 20. This misses the point repeatedly. First, state-sanctioned utility monopolies exist as instruments of public policy and should be open and accountable to the public they serve. Second, the claim that the utility is solely responsible for meeting clean energy goals is untrue and ignores the important and ever increasing roles of others such as the PBFA, independent power generators, and the general public. Third, the claim fails to appreciate the benefits of public participation to all parties involved, including the utilities. Again, the failures of the utility-dominated process necessitated the establishment of the RPS/EEPS law. That process has run its course and must now be updated to new realities and needs.

The Joint Proposed Framework proposal includes various revisions to the IRP Framework to conform with Hawai'i's increasingly multilateral energy landscape, encourage public participation and input, and reap the benefits mentioned above of an open and collaborative process.

Advisory Groups: First, to address criticisms of the advisory group process, the Joint Proposed Framework strengthens the independence and role of the advisory

groups, rather than allowing the utilities to control and ignore them at will. For example:

- The Commission, instead of the utility, organizes the advisory groups. Joint Proposed Framework § III.E.1. Representatives of the Commission may participate in advisory group meetings. Id.; see also id. § II.D.4.

- An independent facilitator appointed by the Commission chairs the advisory groups.

  Further HSEA Comment: The NRRI paper states that "a neutral facilitator seems necessary," id. at 10, and the HECO Companies have asked in IRs whether an independent observer would be sufficient. HSEA emphasizes that the independent facilitator should go beyond a mere process facilitator or observer and play a proactive role that includes engaging with the advisory groups, providing technical support, and serving as a reporter or liaison for the advisory groups to the Commission. Although the Joint Proposed Framework proposes the independent facilitator to be funded through the utility's cost recover mechanisms, the commission would become even more independent if funded by the Commission.

- Advisory groups or committees within advisory groups may be formed for different issues in the planning process. Joint Proposed Framework § III.E.1.a. This includes technical advisory groups or committees to address matters requiring certain expertise. Id.; see also id. § III.B.1.a.2.

- The utilities are to consult with advisory groups on the various components of the planning analysis. See id. pt. IV. This includes areas such as forecasts of demand-side management and distributed generation, in which the input of non-utility parties like the PBFA and DG providers are particularly important. Id. § IV.B.

- The advisory group or its representative (e.g., the independent facilitator) can inspect and evaluate the utility's modeling and inputs. Id. § III.E.1.g. The advisory group can also have the utility use its modeling tools to run alternative scenarios based on alternate assumptions, although the utility may ask the Commission to limit unduly repetitious or burdensome requests. Id. § III.E.1.h.

- If the utility refuses to adopt recommendation of the advisory group it must provide the advisory group and file with the Commission a detailed justification why the recommendation should not be adopted. Id. § III.E.1.k.

- At any point during the integrated planning process, an advisory group or one or more of its members may invoke the Commission's informal complaint process to request interim relief in resolving a significant dispute with the utility over the process. Id. §§ III.E.1.l; II.D.5.

General Public Participation: In addition, the Proposed Framework further develops the provisions for involvement of the general public, providing an opportunity for public notice and comment on the utility's proposed integrated resource plan, and an obligation of the utility to consider and respond to the public comments. Id. § III.E.2. HSEA is open to additional similar opportunities for public notice and comment at other discrete points in the planning process.

Intervenor Funding: To address criticisms of the ineffectual provisions for intervenor funding, which are supposed to help level the playing field for intervenors and participants, the Joint Proposed Framework seeks to lessen the burdens of reimbursement requests. See id. § III.E.4. In particular, intervenors may choose a process for period reimbursement during the course of the proceeding. Id. § III.E.4.e.

For the reasons discussed, such revisions as described above are reasonable and in the public interest because they address previous shortfalls of the IRP Framework's public participation provisions and provide an inclusive and accessible process necessary to improve planning and decision-making, build public support, and achieve results.

5. Responses to questions in the NRRI Paper.

The following provides additional discussion of the Joint Proposed Framework in response to the specific questions posed by the NRRI paper, with reference to previous discussions as applicable.

1. Does the proposed framework provide a reasonable process for defining the question(s) that the [plan] must answer?

Yes. As stated in supra Part II.B.2, the Joint Proposed Framework establishes a goal-oriented framework for clean energy planning, including clear and purposeful clean energy goals, principles, and objectives. The Joint Proposed Framework provides for the Commission to specify the questions and objectives at the outset of the three-year major planning cycle. Id. § III.B.1.b. Planning objectives may be set by the utilities and the Commission, based on the input and recommendations of advisory groups. Id. § IV.C.

2. Does the proposed framework enable the Commission to meet its statutory requirements regarding the review and establishment of RPS and EEPS targets?

Yes. The planning process inherently allows analysis of the feasibility and cost of resource options and strategies developed to meet clean energy objectives, which include legal mandates such as the RPS and EEPS. As HSEA emphasized in its response to the NRRI paper, however, it

> is particularly concerned by the suggestion in the NRRI paper that the [planning] scenarios would include the possibility of changes to the RPS and EEPS mandates. NRRI paper at 8. Setting aside the legal authority for such changes, achievement of clean energy goals only becomes more difficult if the planning framework is preoccupied with hedging bets against those goals from the outset.

HSEA's NRRI Response at 6.

3. Does the proposed framework provide a reasonable process for defining a starting point for scenario planning?

Yes. The IRP Framework already contained such provisions, which still remain in the Joint Proposed Framework.

4. Does the proposed framework provide a reasonable process for discovering a plausible range of uncertainties and trends?

Yes. The Joint Proposed Framework provides for the development of scenarios by the utilities in consultation with advisory groups. Id. § IV.A.

5. Does the proposed framework differentiate between uncertainties and predetermined trends?

Yes. The Joint Proposed Framework thoroughly defines "scenario," which distinguishes uncertainties underlying "scenarios" and mere trends in "forecasts." Id. pt. I, § IV.A.

6. Does the proposed framework provide a reasonable process for identifying the drivers of uncertainty that make a difference?

Yes. See responses to Question Nos. 4 & 5.

7. Does the proposed framework provide a reasonable process for defining a reasonable number of scenarios that define a plausible range of different futures for planning decisions?

Yes. See response to Question No. 4. The Joint Proposed Framework specifies that:

> A sufficient number and range of scenarios should be developed to (1) incorporate a broad range of perspectives and input from non-utility stakeholders and the public; (2) provide meaningful breadth to the scope of analysis and assumptions; (3) frame meaningful planning objectives and measures of attainment; and (4) test the robustness of candidate strategies with respect to a range of possible future circumstances and risks.

Id. § IV.A.

8. Does the proposed framework enable the Commission to make timely and informed decisions about the budget for the [PBFA]?

Yes. The Joint Proposed Framework calls for the participation of the PBFA in the planning process, id. § II.E; § III.E.1.i; § IV.B.2.a, and provides that "[t]he PBFA and the utility shall cooperate interactively to determine an optimal portfolio of programs to be implemented by the PBFA," id. § II.E.5.

9. Does the proposed framework provide a reasonable process for assessing actions and making decisions?

Yes. As explained in supra Part III.B.3, the Joint Proposed Framework retains many of the provisions in the IRP Framework describing the planning assumptions and analysis, but also incorporates the scenario planning concept, which includes the development of scenarios and the selection of resource options or strategies that best achieve planning objectives when considered across the range of scenarios.

10. Does the proposed framework provide a reasonable process for ongoing monitoring and adjustments to approved plans?

Yes. See supra Part III.B.3, regarding the Joint Proposed Framework's requirement for utilities to update their action plans on an ongoing basis. The Joint Proposed Framework also retains the IRP Framework's provision allowing the utility to revise or amend its plans. Id. § III.D.4.

11. Does the proposed framework create an efficient, transparent process that involves all relevant decisionmaking entities?

Yes. See supra Part III.B.4, regarding the Joint Proposed Framework's revisions to the public participation provisions.

12. Does the proposed timeline provide adequate time for the participants to address effectively each step of the framework?

Yes. The Joint Proposed Framework retains the IRP Framework's one-year timeframe for completing the plans, but allows the Commission to approve an alternate timeframe. Id. § III.C.4. The Joint Proposed Framework also directs the establishment of a procedural schedule for the individual planning stages. Id. § III.C.3.

13. Does the proposed frequency of scenario-planning cycles allow the Commission to meet its statutory responsibilities efficiently?

Yes. The Joint Proposed Framework retains the IRP Framework's three-year major planning cycle, which to HSEA's knowledge is an appropriate timeframe. The requirement that the utilities maintain current action plans provides the Commission with up-to-date information between planning cycles.

6. Concerns and comments on HECO's proposal.

While the discussion in this FSOP focuses on the Joint Proposed Framework, HSEA also has concerns regarding the alternate CESP Proposal. Indeed, the Joint Proposed Framework includes revisions that address such concerns of HSEA and other parties. HSEA recognizes that the HECO Companies may be revising their proposed framework based on the parties' comments and IRs and, therefore, simply summarizes its concerns based on the latest understanding of the HECO proposal.

- As discussed in supra Part II.B.3, the HECO proposal appears to use the scenario planning concept to justify deleting many basic features of the utility planning process and eliminating much of its rigor and substance. Again, a clear distinction should be maintained between scenario planning and these proposed deletions and shortcuts.

- The HECO proposal systematically deletes all language and provisions in the IRP Framework relating to planning objectives, including the provisions for setting objectives and applying them to analyze and select resource options and evaluate planning results. See IRP Framework §§ IV.E, H, I. As HSEA emphasized, without clear planning objectives and principles, "planning becomes merely an exercise in self-validation, rather than a discipline for achieving progress, and will

lack the transparency necessary to build public awareness and support." HSEA's PSOP at 9.

- The HECO proposal also deletes the provisions relating to developing preferred and alternate plans, see Joint Proposed Framework § IV.J, and allows the utilities to cobble together an action plan from entirely different scenarios, see CESP Proposal § III.D.2. It is unclear how this would work to provide a rational, coherent, and transparent plan to support utility actions and Commission decisions.

- The HECO proposal also deletes all references to "external benefits and costs" (meaning impacts to others "outside the utility and its ratepayers," including "environmental, cultural, and general economic" benefits and costs), and "societal costs" (meaning "total direct and indirect costs to society as a whole") and "societal cost benefit assessments." See IRP Framework pt. I. Given that the impetus for clean energy development stems from the recognition of the need to consider broader societal benefits and costs, it seems inconsistent that clean energy planning would omit analysis of externalities.

- The HECO proposal inserts new provisions allowing the utilities to seek waiver from "any or all of the provisions of the CESP Framework" if, for example, compliance is "impossible, impractical, inappropriate or economically infeasible." CESP Proposal § III.D.5, 6. Such sweeping exceptions can swallow the rule, and risk turning the planning process into a meaningless exercise.

- The HECO proposal also newly provides that programs and projects need not be included in the action plan to be consistent with the CESP, id. § III.D.7, similarly allows the utilities to nullify the planning process by pursuing projects that were never subjected to scrutiny as part of comprehensive planning. If the utilities pursue a project that is not consistent with their plans, they should justify such a deviation, or seek amendment of their plans. See supra Part II.B.3.

- The HECO proposal inserts a new provision that the Commission must decide on the proposed action plan within six months of filing, or else the plan is automatically approved. CESP Proposal § II.D.2. Such a provision unjustly penalizes the Commission and the public by arbitrarily curtailing opportunities for meaningful review, input, and revisions.

- The HECO proposal inserts a new provision that approval of an action plan should give the preferred resources in the plan, "a presumption of need in any subsequent siting proceeding." Id. § II.D.2.

Such presumptive approval of individual actions or projects, without a commensurate level of individualized detail and rigor, is internally inconsistent and unwarranted.

- The HECO proposal does nothing to improve the IRP Framework's public participation provisions, but rather weakens them even further by changing their stated goal from "maximiz[ing]" to simply "encourag[ing] public participation. Compare IRP Framework § III.E, with CESP Proposal, § III.E. As discussed above, these provisions should instead be strengthened to provide necessary and beneficial public transparency, accountability, and responsiveness in the process. See supra Part II.B.4.

- The HECO Companies have inquired about the suitability of a neutral facilitator or observer for the advisory groups; however, as explained above, the problems with the public participation process necessitates more fundamental improvements beyond just a passive meeting facilitator or observer.

- The HECO proposal gives the utilities exclusive responsibility for a wide range of "planning considerations," which includes, for example, forecasts of DG, which is not within the utilities' responsibility and control, and on which other parties have direct experience and expertise to offer. CESP Proposal pt. IV. The Joint Proposed Framework improves this process by providing for advisory group input on such planning components. See id. pt. IV.

Finally, HSEA continues to question the "locational value map" ("LVM") concept and the related "clean energy investment zone" ("CEIZ") concept in the HECO Proposal. See CESP Proposal § IV.E. Although these concepts appear intuitively appealing from an engineering perspective, as envisioned in the HECO Proposal, they appear to differ from the examples of such maps in other jurisdictions cited in the HECO Companies' IR Responses and, ultimately, suffer three key flaws:

- First, the HECO proposal incorrectly assign "locational value" only to areas of projected load growth. Even assuming that load growth could be accurately projected by the HECO Companies alone, which is far from certain, this ignores the potential benefits that could be derived from increased DG penetration in other types of areas. In areas where load is already high, for example, there is "locational value" in siting DG because

it reduces load on congested circuits. Indeed, as explained in the HECO Companies' response to KIUC-HECO-IR-1, the model for the HECO proposal, the California IAP, cites the alleviation of pockets of distribution and sub-transmission congestion as goals of the process.

- Second, the HECO proposal overly relies on planning projections at the expense of marketplace data in determining priority locations. As Hawai'i attempts to reduce its vulnerability to imported fuels and reduce its carbon emissions, the most focused demand for distributed renewables in this first phase of investment lies in commercial and industrial areas. In many cases prospective DG system providers on these circuits are already being denied the ability to interconnect by the HECO Companies' versions of Rule 14H. There is clearly locational value in designating these areas for infrastructure upgrades that will remove the current constraints on growth of and investment in renewable DG and, in the process, reduce congestion on the utilities' system.

- Third, as stated above, the HECO proposal lacks a plan to incorporate outside expertise in partnership with the HECO Companies' to determine areas of locational value, both from the perspective of growth in demand for DG and in load growth itself. Without this external input, the HECO proposal's concept of LVMs and CEIZs appears to rest on a premise that distributed resources and energy efficiency should be "focused into" limited select areas, id. § IV.F.3, rather than promoted as widely as possible, wherever beneficial. This premise is faulty and serves to impede, rather than facilitate, an expeditious transition to a clean energy future.

In sum, the LVM concept proposed should be broadened to: (1) formally include stakeholders in the process of identifying LVM zones; (2) associate locational value with other important factors (e.g., congestion reduction and peak shaving in high load areas); and (c) recognize that growth of renewable energy generators in specific locations, while not undesirable, must not come at the expense of system-wide access to the grid and system-wide incentives for renewable energy project development.

C. Question No. 3: Whether The Proposed Changes To The IRP Process Should Include Changes To Reflect Differences Between Electric Cooperatives And Investor Owned Utilities?

As the Commission noted in its order closing KIUC's most recent IRP docket, "[t]he IRP Framework, which was approved by the commission, applies to all electric utilities in the State of Hawaii." In re KIUC, Docket No. 2006-0165, Order Denying Request to Suspend Proceeding and Closing Docket, filed on Feb. 18, 2009, at 5. The Commission further observed that, "[a]t this point, there does not appear to be any basis for having separate frameworks which would apply to different utilities." Id. In this docket, KIUC has discussed in general terms the differences between KIUC and investor-owned utilities, but has declined to specify how these differences bear on any particular revision in the CESP Proposal, or to suggest its own specific proposals it recognizes "would be necessary to further hone and update the IRP Framework since its inception in 1992 to incorporate some of these CESP principles and objectives." KIUC's NRRI Response at 3. As KIUC acknowledges, the same concerns it raises in this docket would apply to the existing IRP Framework, yet have not prevented KIUC from functioning under that framework.

The Proposed Joint Framework currently incorporates KIUC's proposal that the Commission may grant a cooperative appropriate waivers of the planning framework provisions. Id. § II.D.6. Given the Commission's direction that the KIUC take part in developing a revised planning framework in this proceeding, however, HSEA remains open to reviewing input from KIUC either opposing, supporting, or affirmatively

proposing specific revisions to the IRP Framework to support planning for a clean energy future in all of Hawai'i.

D. Question No. 4: What Should Be The Role Of The State's Public Benefits Fee Administrator?

As the independent entity responsible for energy efficiency programs, the PBFA administers an integral part of the overall picture of clean energy planning in Hawai'i. For the same reasons discussed above with respect to the utilities, the PBFA should also engage in a goal-driven planning process. Both the Joint Proposed Framework and CESP Proposal currently envision that process will be subsumed within the utilities' planning process, but it may be preferable that the PBFA conduct its own independent planning process, if feasible. In any event, the ultimate arrangement must navigate between two potentially competing needs: the need to enable effective information exchange and cooperation between the PBFA and utilities; and the need to preserve the PBFA's autonomy. That is, the utility planning process should provide the PBFA with the information and analysis necessary to fulfill its mission, but should not dictate the PBFA's decisions and actions.

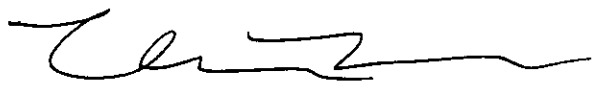
The Proposed Joint Framework, for example, contemplates that the PBFA will work with the utilities and advisory groups to develop forecasts of energy efficiency program development, id. § IV.B.2.a, provides that "[t]he PBFA and the utility shall cooperate interactively to determine an optimal portfolio of programs to be implemented by the PBFA," id. § II.E.5, and makes clear that "[t]he specific design of the energy efficiency programs managed by the PBFA, however, must reside with the

PBFA," id. § II.E.5. These concepts may be further refined to address any remaining concerns. At the very least, it seems intuitive that the PBFA must have sufficient capacity and resources to effectively participate in the planning process at a level that ensures its independence.

## III. CONCLUSION

HSEA submits this FSOP based on its careful reviews of the IRP Framework, Joint Proposed Framework, and CESP Framework, as well as the discussions, comments, and information exchanges in this proceeding to date. We look forward to further discussions on this important matter establishing the foundation for Hawai'i's necessary and legally mandated transition to a clean energy future.

DATED: Honolulu, Hawai'i, December 21, 2009.



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STATE OF HAWAI'I

# A FRAMEWORK FOR INTEGRATED RESOURCE PLANNING

March __, 2010

## I. DEFINITIONS

Unless otherwise clear from the context, as used in this framework:

"Action" (as used in the context of a utility action plan) means any specific activity (resource option, study, program, measure, etc.) that the utility intends to implement in order to provide required services and/or attain planning objectives.

"Action plan" means a program implementation schedule, as part of a utility's integrated resource plan, representing a strategy, including a timetable of programs, projects, and activities designed to meet energy objectives over the first five to ten year period of the 20-year planning horizon, including the State of Hawai'i's clean energy objectives.

"Capital investment costs" means costs associated with capital improvements, including planning, the acquisition and development of land, the design and construction of new facilities, the making of renovations or additions to existing facilities, the construction of built-in equipment, and consultant and staff services in planning, design, and construction. Capital investment costs for a program are the sum of the program's capital improvement project costs.

"CHP" means the production of useful heat and electricity from the same process or source.

"Clean energy" means electrical energy generated using renewable energy as a source or as electrical energy savings brought about by the use of renewable displacement or off-set technologies or energy efficiency technologies as defined as "renewable electrical energy" in HRS ch. 269, pt. V, § 269-91, as amended.

"Clean Energy Objectives" or "CE Objectives" means moving the State of Hawai'i off of fossil fuel use and on to Clean Energy use, as mandated by federal, State and county laws (including, but not limited to, HRS ch. 269, pt. V, as amended), and as may be informed by policy statements and guidance.

"Costs" means the full and life cycle costs of a resource option.

"Cost categories" means the major types of costs and includes research and development costs, investment costs, and operating and maintenance costs.



ATTACHMENT A

"Cost elements" means the major subdivision of a cost category. For the category "investment costs, it includes capital investment costs, initial equipment and furnishing costs, and initial education and training costs. For the categories "research and development costs" and "operating and maintenance costs," it includes labor costs, fuel costs, materials and supplies costs, and other current expenses.

"Demand-side management" or "DSM" means programs designed to influence utility customer uses of energy to produce desired changes in electricity demand, including, but not limited to, conservation, energy efficiency, demand response, load management, rate and fee design measures (e.g., declining block rate designs, generation hook-up fees, and standby charges), and renewable substitution.

"Design costs" means the costs related to the preparation of architectural drawings for capital improvements, from schematics to final construction drawings.

"Distributed Generation" or "DG" means electric generating technologies installed at, or in close proximity to, the end-user's location including, but not limited to, renewable energy and combined heat and power ("CHP") facilities, and dispatchable emergency generators.

"Effectiveness measure" means the criterion for measuring the degree to which the objective sought is attained.

"External benefits" means external economies; benefits to or positive impacts on the activities of entities outside the utility and its ratepayers. External benefits include environmental, cultural, and general economic benefits.

"External costs" means external diseconomies; costs to or negative impacts on the activities of entities outside the utility and its ratepayers. External costs include environmental, cultural, and general economic costs.

"Feed-in-Tariff" or "FIT" means a set of standardized terms and conditions, including published purchased power rates, which a utility shall pay for each type of renewable energy.

"Full cost" means the total cost of a program, system, or capability, including research and development costs, capital investment costs, and operating and maintenance costs.

"Hawai'i Revised Statutes" or "HRS" means current State laws governing the State of Hawai'i.

"Integrated Resource Plan" or "IRP" is a plan governed by this framework which provides mandatory guidelines for the utilities for meeting the utility's forecasted load over time with supply-side and demand-side resources consistent with clean energy objectives.

"Investment costs" means the one-time costs beyond the development phase to introduce a new system, program, or capability into use. It includes capital investment costs, initial equipment acquisition costs, and initial education and training costs.

"Life cycle costs" means the total cost impact over the life of the program. Life cycle costs include research and development cost, investment cost (the one-time cost of instituting the program), and operating and maintenance (O&M) cost.

"Net Energy Metering" or "NEM" is a service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility ('customer-generator") and delivered to the local distribution facilities that is used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.

"Operating and maintenance costs" or "O&M costs" means recurring costs of operating, supporting, and maintaining authorized programs, including costs for labor, fuel, materials and supplies, and other current expenses.

"Participant impact" means the impact on participants in a demand-side management program in terms of the costs borne and the direct, economic benefits received by the participants.

"Planning objectives" are desired outcomes to be attained by actions by the utility and Public Benefits Fee Administrator.

"Program" means projects, resources and/or activities in a strategy, scenario and/or the Action Plan.

"Public Benefit Fee Administrator" or "PBF Administrator" means the third-party administrator of energy efficiency demand-side management programs as defined in HRS ch. 269, pt. VII, § 269-122.

"Ratepayer impact" means the impact on ratepayer in terms of the utility rates that ratepayers must pay.

"Research and development costs" means costs associated with the development of a new system, program, or capability to the point where it is ready for introduction into operational use. It includes the costs of prototypes and the testing of the prototypes. It includes the costs of research, planning, and testing and evaluation.

"Renewable Portfolio Standards" or "RPS" means the State of Hawai'i's renewable portfolio standards as defined in HRS ch. 269, pt. V.

"Request for Proposals" or "RFP" means a written request for proposals issued by an electric utility or other entity to solicit bids from interested parties for provision of

supply-side or demand-side resources or services to a utility pursuant to an applicable competitive bidding process.

"Resource option" is a program, generation unit, tariff provision, or any other measure (collectively "measures") that would contribute to meeting energy needs or attainment of planning objectives. Resource options would include measures that could be implemented by the utility, the public benefit fee administrator or the Commission as well as those measures anticipated to be implemented by other entities (such as State of Hawai'i programmatic governmental agency efficiency measures).

"Scenario" is a distinctive set of possible, plausible circumstances that would have a major effect on resource planning decisions. Scenarios would be explicitly identified in the planning process in order to (a) provide an appropriate breadth to the scope of plausible analysis assumptions utilizing stakeholder participation, (b) frame meaningful planning objectives and measures of attainment and (c) test the "robustness" of candidate strategies with respect to a range of possible future circumstances. Scenarios could be formulated based on possible circumstances including those that are outside the control of the utilities and Commission and those that based on major "game changing" resource strategies (such as an inter-island cable system).

"Societal cost" means the total direct and indirect costs to society as a whole. Society includes the utility and, in a demand-side management program, the participants.

"Societal cost-benefit assessment" means an assessment of the costs and benefits to society as a whole.

"Strategy" is a set of perspective resources and actions that are designed to meet the planning objectives. A strategy is similar to what the HECO Companies have referred to as "candidate plans" in the IRP applications filed under the existing IRP Framework except that a strategy could also include appropriate contingency planning, parallel planning measures to address future uncertainties. In the planning process each strategy would be assessed with respect to the various identified scenarios. An action plan would be identified to implement a preferred strategy and/or to maintain flexibility to implement more than one possible preferred strategy or one or more contingency strategies.

"Supply-side programs" means programs designed to supply power either to the utility grid or to a particular customer or entity, including, but not limited to, renewable energy, CHP, and independent power producers.

"Total resource cost" means the total cost of a demand-side management program, including both the utility and participants' costs.

"Utility" or "Public Utility" an organization that maintains the infrastructure for a public service (often also providing a service using that infrastructure). In the case of electrical service, the organization can be privately-owned, such as Hawaiian Electric Company, Inc., the Hawaii Electric Light Company, Inc., the Maui Electric Company, Ltd., or

publicly-owned such as a municipal, or member-owned such as a cooperative, as in the case for Kauai Island Utility Cooperative. Other public utilities can provide natural gas (or as in the case of The Gas Company, propane and synthetic gas), water or sewage services.

"Utility cost" means the cost to the utility (including ratepayers), excluding costs incurred by participants in a demand-side management program.

"Utility cost-benefit assessment" means an assessment of the costs and benefits to the utility.

## II. INTRODUCTION

### A. Goal of Integrated Resource Planning

The goal of integrated resource planning is to employ a comprehensive and flexible planning process to develop and implement integrated resource plans which shall govern utility acquisition and utilization of all capital projects, purchased power, and demand-side management toward achieving and exceeding Clean Energy Objectives ("CE Objectives") in an efficient, economical, and prudent manner that promotes Hawai'i as a leader in the adoption and use of clean energy and facilitates Hawai'i's swift transition to a clean energy future.

### B. Governing Principles (Statements of Policy)

1. The development of integrated resource plans are the responsibility of each utility, in consultation with advisory group(s), non-utility stakeholders, and the public, and with the oversight and approval of the commission.

2. Integrated resource plans shall comport with federal, state, and county environmental, health, and safety laws and formally adopted state and county plans.

3. Integrated resource plans shall be developed upon consideration and analyses of the short- and long-term costs, benefits, and risks associated with all appropriate and feasible supply-side and demand-side distributed generation and energy management resources

4. Integrated resource plans shall consider technological advances in the utility's transmission and distribution infrastructure plans such as advanced data acquisition and system controls (i.e., smart grid), energy storage, or changes in the utility's operating procedure.

5. Integrated resource plans shall consider the plans' impact on utility customers, environmental and cultural resources, the local economy, and the broader society.

6. Integrated resource plans shall take into consideration a utility's financial integrity, size, and physical capability.

7. Integrated resource planning shall be an open public process which shall maximize public involvement to enable mutual collaboration, communication, and feedback between the utility and non-utility stakeholders and the public and create broad-based awareness and support for achieving and exceeding CE Objectives.

8. A utility and intervenors are entitled to recover all appropriate and reasonable integrated resource planning costs as approved by the Commission.

9. Integrated resource plans shall prioritize and encourage the increased use of distributed generation over centralized fossil-based generation.

10. Integrated resource plans shall seek to achieve and exceed CE Objectives, including the economic and environmental benefits associated with achievement of energy independence.

11. Integrated resource plans shall take into consideration the need to prevent or minimize power outages during and after disaster situations.

12. Integrated resource planning shall be based upon and incorporate to the extent reasonable the successful elements of the planning process utilized by utilities and Independent System Operators working in conjunction with various stakeholders in other jurisdictions.

13. Integrated resource plans shall prioritize resource acquisition and integration such that demand-side management programs and renewable energy resources are first optimized before consideration is given to fossil-based resources.

14. No customer or third party shall be required to disclose confidential information during the collection of data for integrated resource planning-related proposals or programs.

15. Integrated resource plans shall address all technical barriers to achieving CE Objectives.

## C. Utility's Responsibility

1. Each utility is responsible for developing and maintaining a plan or plans for meeting the energy needs of its customers.

2. The utility shall prepare and submit to the commission for commission review at the time or times specified by the commission the utility's integrated resource plan and action plan.

3. The utility shall maintain at all times a current and up-to-date resource analysis capability and respond to requests for information and analysis by the commission.

4. The utility shall maintain and make publicly available at all times a current and up-to-date action plan.

5. The utility shall maintain and make publically available at all times current and up-to-date information regarding its avoided costs, renewable energy and capacity wholesale purchase tariffs and all current, pending or planned resource acquisition tariffs, programs, requests for proposals or bid offerings.

## D. Commission's Responsibility

1. The commission's responsibility, in general, is to review the utility's plans and planning assumptions and determine whether they represent a reasonable set of assumptions for evaluating capital projects, resource acquisition programs, contracts or other utility commitments for meeting the energy needs of the utility's customers and is in the public interest and consistent with the goals and objectives of integrated resource planning.

2. The commission will review the utility's integrated resource plan, its program implementation schedule, and its evaluations, and generally monitor the utility's implementation of its plan. Upon review, the commission may approve, reject, approve in part and reject in part or require modifications of the utility's integrated resource plan, action plan and planning assumptions.

3. The commission will require the provision of planning information and analysis by the utility as necessary at any time to provide context and information in any regulatory matters before the commission. The commission will decide at the time it requires any information or analysis the extent to which the integrated resource plan advisory group(s), parties and/or participants will be allowed to provide responses to the commissions request for information and/or comments regarding the utility's response(s).

4. The commission staff (or one or more commissioners) may preside over part of occasional advisory group meetings to invite and obtain comments and positions of advisory group members.

5. The commission may, as it finds necessary, issue orders to provide relief (i.e., require consideration by the utility of certain circumstances, resources or scenarios) recommended by advisory group members, parties or participants.

## E. Consumer Advocate's Responsibility

1. The director of commerce and consume affairs, as the consumer advocate and through the division of consumer advocacy, has the statutory responsibility to represent, protect, and advance the interest of consumers of utility services. The consumer advocate, therefore, has the duty to ensure that the utility's integrated resource plan promotes the interest of utility consumers.

2. The consumer advocate shall be a party to each utility's integrated resource planning docket and a member of any and all advisory groups established by the utility in the development of its integrated resource plan. The consumer advocate shall also participate in all public hearings and other sessions held in furtherance of the utility's efforts in integrated resource planning.

## F. Public Benefit Fee Administrator's Responsibility

1. The Public Benefit Fee Administrator (PBFA) is a contractor to the Commission and has a unique role as a provider of ratepayer funded energy services.

2. The energy efficiency programs managed by the PBFA serve purposes that are closely integrated with the services provided by the energy utilities. Together, the programs managed by the PBFA and the services provided by the energy utilities need to meet energy consumer needs reliably and economically. The PBFA programs serve as important components of utility plans, can serve as alternatives to or means to defer utility capital expenditures, and are relied upon by the utilities to meet energy service requirements. It is therefore necessary that utility planning include consideration of the optimal targeting, design objectives and role of the PBFA energy efficiency programs in the context of utility plans.

3. The specific design of the energy efficiency programs managed by the PBFA, however, must reside with the PBFA to the extent that the PBFA is responsible for the efficacy of these programs and to the extent specified by contract or otherwise determined by the commission.

4. The PBFA should be a participant in the utility planning process and should have a unique role as the primary implementer of a fundamental component of Hawai'i's energy utility resource strategy. The PBFA should provide information to the utility planning process regarding the nature of existing, planned and potentially feasible programs, the expected cost and impacts of these programs as well as any other relevant issues or uncertainties. The utility planning process should evaluate the existing, planned and potentially feasible energy efficiency programs to determine which are the most cost-effective in terms of avoiding short run and long

run utility costs, the extent to which these programs can meet utility and State planning objectives and how these programs might best be targeted geographically or temporally.

5. The PBFA and the utility shall cooperate interactively to determine an optimal portfolio of programs to be implemented by the PBFA.

## III. THE PLANNING CONTEXT

### A. Major Steps

There are four major steps in the integrated resource planning process: planning, programming, implementation, and evaluation.

1. Planning is that process in which he utility's needs are identified; the utility's objectives are formulated; measures by which effectiveness in attaining objectives are specified; the alternatives by which the objectives may be
attained are identified; the full cost, effectiveness, and benefit implications of each alternative are determined; the assumptions, risks, and uncertainties are clarified; the cost, effectiveness, and benefit tradeoffs of the alternatives are made; the resource options are examined, screened and evaluated; and resource and program choices are subjected to sensitivity analyses. The product of this process is the utility's integrated resource plan. The planning horizon for utility integrated resource plans is 20 years.

2. Programming is that process by which the utility's long-range resource program plans are scheduled for implementation over a five to ten-year period. In this process, a determination is made as to the order in which the selected program options are to be implemented; the phases or steps in which each program is to be implemented; the expected target group and the annual size of the target group or annual level of penetration of demand-side management programs; the expected annual supply-side capacity additions; the expected annual levels of effectiveness in achieving integrated resource planning objectives; and the annual expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of the programs. The result of this process is an action plan. The action plan represents an implementation strategy and timetable for program implementation. The action plan shall address utility actions for a five to ten year period.

3. Implementation is that process by which the resource program options to be implemented are acquired and instituted in accordance with the utility's program implementation schedule.

4. Evaluation is that process by which the results of the resource program options are measured in light of the utility's objectives. In this process the

actual costs, effectiveness, and benefits of the resource options and the attainment of the utility's objectives are measured against those that were projected in the planning and programming stages of the planning cycle.

## B. The Planning Cycle

There are four main components of the integrated resource planning cycle:

1. Three Year Major Review. A major review of the utility twenty-year integrated resource plan, planning assumptions and action plan(s) each three years:

    a. The commission will initiate each three year planning cycle by establishing one or more dockets to administer the planning process for each utility with a three-year cycle for major reviews.

        (1) The commission shall establish one or more advisory groups for each utility and/or for several energy utilities collectively.

        (2) The commission may establish one or more technical advisory groups or technical advisory committees within advisory groups to assist in monitoring, evaluating and interpreting the assumptions, modeling and analysis utilized in the preparation of the utility integrated resource plans and action plans.

    b. At the beginning of each three-year IRP review cycle the commission may (independently or after a public meeting) specify:

        (1) questions and issues that the specific round of IRP analysis and the resulting plan should address, and

        (2) any specific objectives or scenarios that should be considered in that specific round of IRP analysis.

    c. The three year planning cycle shall establish and review:

        (1) planning assumptions (projected demand, fuel prices, resource characteristics), including identification of possible future scenarios to be considered in developing plans and action plans.

        (2) analytical methods (integration modeling, rate impact analyses, etc), including methods to consider identified scenarios.

        (3) a base long range (20 year) resource plan.

(4) a five year (or longer) action plan.

2. Ongoing Analysis and Planning Capability.

a. Each utility would maintain a modeling and analysis capability that is current and up to date at all times.

(1) On an ongoing basis, the utility shall update all important planning assumptions, forecasts, demand estimates, etc. as frequently as circumstances require and configure the planning process analytical models accordingly.

(2) The utility shall notify the commission and shall notify and solicit comments to be forwarded to the commission from all planning docket parties and advisory group(s) whenever planning assumptions are updated.

b. As needed for any regulatory purposes, the commission will request prompt and timely analysis from the utilities based on current, up-to-date planning assumptions.

(1) In the context of any docket, the commission may issue information requests to the utility requesting information and/or analysis based on current planning assumptions and modeling analysis capability.

(2) Planning docket parties and utility advisory group members shall be notified of any requests for information or analysis and documents shall be made available via the Commission's Document Management System.

(3) The commission may, at its discretion, issue any information requests and/or responses by the utility to the planning docket parties or participants, the advisory group(s) or any technical advisory group(s) or commitee(s) for review and comment.

3. Current Action Plan.

a. Each utility shall maintain a current, up-to-date action plan at all times.

(1) To the extent that circumstances or changes in planning assumptions substantially affect the merits of the base resource plan or action plan, the Commission, parties and advisory group shall be notified.

(2) Action plans shall be updated in accordance with supporting analytical methods and with the informed advice of the parties and advisory group.

b. Modified (updated) action plans would be prospective pending any explicit approval of any action plan components by the commission but would always be kept up-to-date and publicly accessible to inform all stakeholders of current planning assumptions presumed by the utility.

(1) Actions proposed by the utility in any docket before the commission would be reviewed by the commission in light of the current, most recently approved action plan.

(2) If proposed actions are not consistent with the most recently approved action plan, the proposed actions must be consistent with the current updated action plan which should be reviewed by the commission prior to or concurrently with the commission's review of the proposed action with the informed advice of the planning docket parties and advisory group(s).

c. Any approval of modifications to the utility integrated resource plan or action plan in a docket that considers actions not consistent with the approved utility integrated resource plan or approved action plan shall be made with the informed advice of the planning docket parties and participants in the advisory group(s). The utility shall specify and, after opportunity for comment by the planning docket parties and participants in the advisory group(s), the commission shall determine:

(1) The extent to which any proposed actions are not consistent with the approved integrated resource plan and approved action plan.

(2) The extent to which any proposed actions would affect any other aspects of the approved integrated resource plan and approved action plan.

(3) Whether the proposed actions and resulting associated changes in the integrated resource plan and action plan are reasonable and in the public interest.

4. Evaluations.

a. As required by the commission each utility shall provide evaluations of the implementation of integrated resource plans,

action plans and the attainment of planning objectives and statutory objectives.

## C. The Docket

1. Each planning cycle for a utility will commence with the issuance of an order by the commission opening a docket for integrated resource planning.

2. The docket will be maintained throughout the planning cycle for the filing of documents, the resolution of procedural disputes and other purposes related to the utility's integrated resource plan.

3. Within 30 days after the opening of the docket or, if petitions to intervene are filed within twenty days of the opening docket, by a date specified by the commission, the utility and parties shall prepare, and file with the commission a proposed procedural order and procedural schedule for the development of the utility integrated resource plan and action plan.

    a. The procedural schedule shall identify several stages of the planning process and specify dates, at each stage, for filings with the commission by the utility and parties and allowing filing of comments by participants in the advisory group(s), Stages shall include:

        (1) Identification and determination of scenarios and planning assumptions.

        (2) Identification and determination of analytical methods and models including methods to evaluate identified scenarios.

        (3) Identification of candidate resource strategies to be evaluated.

        (4) Proposed integrated resource plan(s) and action plan(s).

4. The utility shall complete its integrated resource plan and program implementation schedule within one year of the commencement of the planning cycle or according to a schedule approved by the commission.

5. Any party or advisory group member could petition the Commission at any time requesting the Commission's attention to review or take action regarding changes to planning assumptions or changes in action plans.

    a. Parties or participants may request relief from the Commission by motion.

b. Parties, participants or advisory group members may petition the commission for action regarding changes to planning assumptions, long range plans or action plans by an informally by letter. Any such requests will conform to the requirements in the commission's existing rules regarding informal complaints.

## D. Submissions to the Commission

1. In each three year general review, the utility shall submit its integrated resource plan as follows.

   a. The utility shall include in its integrated resource plan a full and detailed description of (1) the generation, major distribution, and transmission needs identified; (2) the forecasts made, including supply- and demand-side distributed generation forecasts; (3) the assumptions underlying the forecasts; (4) the objectives to be attained by the plan; (5) the measures by which achievement of the objectives is to be assessed; (6) the resource options or mix of options included in the plan; (7) the assumptions and the basis of the assumptions underlying the plan; (8) the risks and uncertainties associated with the plan; (9) the revenue requirements on a present value basis and on an annual basis; (10) the expected impact of the plan on demand; (11) the expected achievement of objectives; (12) the potential impact of the plan on rates and consumer bills, including any potential rate and billing impacts due to possible rate equalization measures between utility service territories, and consumer energy use; (13) the plan's external costs and benefits; and (14) the relative sensitivity of the plan to changes in assumptions and other conditions. The items enumerated should, where appropriate, be described for the plan as a whole and for each of the resources or mix of resources included in the plan.

   b. The utility shall file with the integrated resource plan a full and detailed description of the analysis or analyses upon which the plan is based. The utility shall fully describe, among other things, (1) the data (and the source of the data) upon which needs were identified and forecasts made; (2) the methodologies used in forecasting; (3) the various objectives and measures of assessing attainment of objectives that were considered, but rejected, and the reasons or rejecting any objective or measure; (4) the resource options that were identified, but screened out and not considered and the reasons for the rejection of any resource option; (5) the assumptions and the basis of the assumptions, the risks and uncertainties, the costs, effectiveness, and benefits (including external costs and benefits) and the impacts on demand, rates, consumer bills, and consumer energy uses associated with each resource option or mix of options that was considered; (6) the

comparisons and the cost, effectiveness, and benefit tradeoffs and optimization made of the options and mixes of options; (7) the models used in the comparisons, tradeoffs, and optimization; (8) the criteria used in any ranking of options and mixes of options; and (9) the sensitivity analyses conducted for the options and mixes of options.

c. The utility shall also file with the integrated resource plan a description of all alternate plans that the utility developed, the ranking it accorded the various plans, the criteria used in such ranking, and a full and detailed explanation of the analysis upon which it decided its preferred integrated resource plan.

d. The submissions should be simply and clearly written and, to the extent possible, in non-technical language. Charts graphs, and other visual devices may be utilized to aid in understanding its plan and the analyses made by the utility. The utility shall provide an executive summary of the plan and of the analyses and appropriately index its submissions.

2. In each three year general review, the utility shall submit its action plan as follows.

a. The utility shall include in the action plan by year: the programs or phases of programs to be implemented in the year; the expected level of achievement of objectives; the expected size of the target group or level of penetration of any demand-side management program; the expected supply-side capacity addition; the expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of each program or phase of a program.

b. The utility shall file with its action plan a full and detailed description of the analysis upon which the schedule is based. The utility shall fully describe, among other things:

(1) The steps required to realize and implement the supply-side and demand-side resource programs included in the schedule.

(2) How the target groups were selected and how program penetration for demand-side management programs and the expected levels of effectiveness in achieving integrated resource planning objectives were derived.

(3) The expected annual effects of program implementation on the utility and its system, the ratepayers, the environment,

public health and safety, cultural interests, the state economy, and society in general.

c. The program implementation schedule shall also be accompanied by the utility's proposals on cost and revenue loss recovery and incentives, as appropriate.

d. The utility shall include the expected transmission system additions and the estimated cost required to be made by the utility to support the implementation of the transmission additions.

e. The utility shall include the identification of the expected major distribution system additions.

f. The utility shall include identification of smart grid improvements and upgrades to the utility system and the estimated cost required to be made by the utility to support the implementation of any smart grid improvements.

3. The utility shall regularly update its action plan as circumstances require so as to always maintain a current and up-to-date action plan.

a. The utility shall make, on an ongoing basis, an assessment of the continuing validity of the forecasts and assumptions upon which its integrated resource plan and its action plan were fashioned.

b. The utility shall also include for each program or phase of program included in the action plan current information as follows:

(1) The expenditures anticipated to be made and the expenditures actually made for each program or action identified in the action plan.

(2) The target group size or level of penetration anticipated for each demand-side management program and the size or level actually realized.

(3) The effects of program implementation anticipated and the effects actually experienced.

4. The utility may at any time, as a result of a change in conditions, circumstances, or assumptions, revise or amend its integrated resource plan or its action plan. Modified (updated) action plans would be prospective pending any explicit approval of any action plan components by the commission but would always be kept up-to-date and publicly accessible to inform all stakeholders of current planning assumptions presumed by the utility.

5. The integrated resource plan and action plan shall serve as the context and analytical basis for the regulation of all utility expenditure for capital projects, purchased power, and demand-side management programs. Notwithstanding approval of an integrated resource plan: (a) an expenditure for any capital project in excess of $2,500,000 shall be submitted to the commission for review as provided in paragraph 2.3.g.2 of General Order No.7; and (b) no obligation under any purchased power contract shall be undertaken and no expenditure for any specific demand-side management or demand response program included in an integrated resource plan or action plan shall be made without prior commission approval. All power purchases from qualifying facilities and independent power producers shall be subject to statute and commission rules.

6. The commission, upon a showing that a utility has an ownership structure in which there is no substantial difference in economic interests between its owners and customers, may waive or exempt that utility from any or all provisions of this framework, as appropriate.

## E. Public Participation

To maximize public participation in each utility's integrated resource planning process, opportunities for such participation shall be provided through advisory groups to the utility, public hearings, and interventions in formal proceedings before the commission.

1. Advisory groups

   a. The commission shall organize a group or groups of representatives of public and private entities to provide independent review and input to each utility and the commission in the integrated resource planning process. Different advisory groups or committees within an advisory group may be formed for different issues related to the planning process, as appropriate.

   b. An independent facilitator appointed by the commission shall chair each advisory group. The costs of the independent facilitator shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning. The commission, by its staff or one or more commissioners, may participate in advisory group meetings to receive input from advisory group members.

   c. The membership of each advisory group shall be independent of any utility and be able to provide significant perspective or useful expertise in the development of the utility's integrated resource plan. The commission shall establish the membership of each advisory group as follows:

(1) Governmental members of each advisory group shall include, at minimum, the Consumer Advocate or the Consumer Advocate's designee, the director of the State of Hawai'i Department of Business, Economic Development & Tourism or the director's designee, and the mayor of the county in which the utility in question provides service or conducts utility business or the mayor's designee.

(2) Nongovernmental members shall include representatives of environmental, cultural, business, consumer, and community interests, and individuals with useful expertise in each county in which the utility provides service or conducts utility business.

(3) Parties admitted into the integrated resource planning docket shall be allowed to participate as advisory group members, as the commission deems appropriate.

(4) Each advisory group shall be representative of as broad a spectrum of interests as possible, subject to the limitation that the interests represented should not be so numerous as to make deliberations as a group unwieldy.

d. Each advisory group shall hold meetings during key phases of a utility's integrated resource planning process, with a minimum of quarterly meetings and more frequent meetings to the extent meaningful and practical.

e. If a utility is considering the use of an energy resource located in another utility's service territory, then that utility shall confer with the advisory group representing the service territory of the energy resource under consideration.

f. Each utility shall provide all data reasonably necessary for an advisory group to participate in that utility's integrated resource planning process, subject to the need to protect the confidentiality of customer-specific and proprietary information, provided that such customer-specific and proprietary information shall not be withheld where there are mechanisms to protect confidentiality.

g. An advisory group participating in a utility's integrated resource planning process, or qualified person(s) representing the advisory group, shall be permitted to inspect and evaluate that utility's modeling, including but not limited to reviewing the inputs the utility has used for the modeling.

h. Upon request from an advisory group, the Consumer Advocate, the State of Hawai'i Department of Business, Economic Development

& Tourism, or a county represented in the advisory group, the utility shall use its modeling tools to run alternative scenarios based on alternate assumptions. At the utility's request, the commission may limit requests that are unduly repetitious or burdensome.

i. The Public Benefits Fee Administrator shall provide all data reasonably necessary for an advisory group to participate in developing and evaluating forecasts of energy efficiency programs.

j. The use by the advisory groups of the collaborative process is encouraged to arrive at a consensus regarding recommendations or findings on issues. If consensus is not possible, recommendations or findings of an advisory group may be made by the vote of not less than the majority of the entire membership of that advisory group.

k. If a utility does not follow a recommendation or finding of an advisory group, it must provide to the advisory group and file with the commission a detailed justification why the recommendation or finding should not be adopted. The advisory group and/or its members shall have an opportunity to respond to the filing.

l. At any point during the integrated resource planning process, an advisory group or one or more of its members may request interim relief from the commission to resolve a significant dispute with the utility in the implementation of the planning process. Such a request will be handled as an informal complaint under the commission's rules.

m. All reasonable out-of-pocket costs incurred by the members of the advisory groups (other than governmental agencies) participating in a utility's integrated resource planning process shall be paid for by that utility, subject to recovery as part of that utility's cost of integrated resource planning.

2. Public input

a. Each utility is encouraged to conduct public meetings or provide public forums at the various, discrete phases of the planning process for the purpose of securing public input.

b. Prior to filing a request for approval of an integrated resource plan, each utility shall provide an opportunity for public review and comment on the proposed plan during a period of not less than sixty (60) days. During each such public comment period, the utility shall hold at least one public hearing on each island that would be affected by the proposed integrated resource plan at

which the public will have the chance to ask questions, seek clarification, raise concerns, and make comments and suggestions.

c. Each utility preparing an integrated resource plan shall assess and consider comments received during the public review and comment period and shall respond by one or more of the means listed below, stating its response in the request for approval filed with the commission:

(1) Modify the plan;

(2) Develop and evaluate alternatives not previously given serious consideration by the utility;

(3) Supplement, improve, or modify its analysis;

(4) Make factual corrections; and/or

(5) Explain why the comments do not warrant further response, citing the sources, authorities, or reasons that support the utility's position and, if appropriate, indicate those circumstances that would trigger utility reappraisal or further response.

d. Upon the filing of requests for approval of an integrated resource plan, the commission may, and it shall where required by statute, conduct public hearings for the purpose of securing additional public input on the utility's proposal. The commission may also conduct such informal public meetings as it deems advisable.

3. Intervention

a. Upon the filing of its integrated resource plan, the utility shall cause to be published in a newspaper of general circulation in the State a notice informing the general public that the utility has filed its proposed integrated resource plan with the commission for the commission's approval. The commission and the utility shall also post such public notice online on their respective websites.

b. To encourage public awareness of the filing of a proposed utility plan, a copy of the proposed plan and the supporting analysis shall be available for public review at the commission's office and at the office of the commission's representative in the county serviced by the utility. The commission and the utility shall provide electronic copies of these documents online on their respective websites. Each utility shall note the availability of the documents for public review at these locations in its published notice. The utility shall make copies of the executive summary of the plan and the analysis

available to the general public at no cost, except the cost of duplication.

c. Applications to intervene or to participate without intervention in any proceeding in which a utility seeks commission approval of its integrated resource plan are subject to the rules prescribed in part IV of the commission's General Order No.1 (Practice and Procedure before the Public Utilities Commission); except that such applications may be filed with the commission not later than 20 days after the publication by the utility of a notice informing the general public of the filing of the utility's application for commission approval of its integrated resource plan, notwithstanding the opening of the docket before such publication.

d. A person's status as an intervenor or participant shall continue through the life of the docket, unless the person voluntarily withdraws or is dismissed as an intervenor or participant by the commission for cause.

4. Intervenor funding

a. Upon the issuance of the commission's final order on a utility's integrated resource plan or any amendment to the plan, the commission may grant an intervenor or participant (other than a governmental agency, a for-profit entity, and an association of for-profit entities) recovery of all or part of the intervenor's or participant's direct out-of-pocket costs reasonably and necessarily incurred in intervention or participation. Any recovery and the amount of such recovery are in the sole discretion of the commission.

b. To be eligible for such recovery:

(1) The intervenor or participant must show a need for financial assistance;

(2) The intervenor or participant must maintain accurate and meaningful books of account on the expenditures incurred; and

(3) The commission must find that the intervenor or participant made a substantial contribution in assisting the commission in arriving at its decision.

c. The intervenor's or participant's books of account are subject to audit, and the commission may impose other requirements in any specific case.

d. Such recovery may be provided upon the application of the intervenor or participant within 30 days after the issuance of the commission's final order (or the entry of a settlement between the parties), together with justification and documented proof of the costs incurred.

e. The commission may provide for recovery via periodic installments during the course of a proceeding. To be eligible for this option, the intervenor or participant shall file a notice of intent to seek recovery and an estimated budget within 30 days after being granted intervention or participation. The intervenor or participant may thereafter make periodic applications for recovery during the proceeding, within the final deadline specified above. The intervenor or participant may request to revise the estimated budget as appropriate.

f. The costs of intervenor funding shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning.

## IV. PLANNING CONSIDERATIONS

### A. Scenarios

Each utility, in consultation with advisory group(s), shall develop scenarios to guide integrated resource planning, including but not limited to possible assumptions, regarding future demand, the availability, characteristics and costs of resource options, and other principal factors that would affect the determination of prudent integrated resource plans. Scenarios may be based on circumstances outside the control of the utilities and commission (e.g., major increases in oil prices) or within their control (e.g., a major resource strategy). A sufficient number and range of scenarios should be developed to (1) incorporate a broad range of perspectives and input from non-utility stakeholders and the public; (2) provide meaningful breadth to the scope of analysis and assumptions; (3) frame meaningful planning objectives and measures of attainment; and (4) test the robustness of candidate strategies with respect to a range of possible future circumstances and risks.

### B. Forecasts

Forecasts shall be conducted with respect to each scenario to inform the development of each utility's integrated resource plan.

1. Demand

a. The utility, in consultation with advisory group(s), shall develop a range of forecasts of the amount of energy demand over the planning horizon.

b. Each forecast shall identify the significant demand and use determinants; describe the data, the sources of the data, the assumptions (including assumptions about fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, and end-use), and the analysis upon which the forecast is based; indicate the relative sensitivity of the forecast result to changes in assumptions and varying conditions; and describe the procedures, methodologies, and models used in the forecast, together with the rationale underlying the use of such procedures, methodologies, and models.

c. Among the data to be considered are historical data on energy sales, peak demand, system load factor, system peaks, and such other data of sufficient duration to provide a reasonable basis for the utility's estimates of future demand.

d. As feasible and appropriate, the forecast shall be by the system as a whole and by customer classes.

2. Demand-Side Management

a. Energy Efficiency: The PBFA shall work with each utility and advisory group(s) to develop a range of forecasts of the potential development of energy efficiency programs over the planning horizon.

b. Load management: Each utility shall work with the PBFA and advisory group(s) to develop a range of forecasts of the potential development of demand response and load management programs, including rate and fee design measures, over the planning horizon.

3. Distributed Generation

Each utility shall work with advisory group(s) to develop a range of forecasts of the amount of distributed generation development and penetration via NEM, FIT, and other means.

## C. Objectives

1. The ultimate objective of each utility's integrated resource plan is to achieve and exceed Clean Energy Objectives in meeting the energy needs of the utility's customers over the ensuing 20 years.

2. Each utility, in consultation with advisory group(s), shall identify a meaningful set of planning objectives for its integrated resource plan and shall identify more specific, shorter-term objectives for its action plans to facilitate achievement the objectives of the integrated resource plan and provide benchmarks to measure progress.

3. The commission may specify objectives for the integrated resource plan or action plans.

4. An advisory group may recommend objectives for the integrated resource plan or action plans to the utility or the commission.

## D. Effectiveness Measures

1. The integrated resource plan and action plans shall specify the measures by which attainment of the objective or objectives is to be determined.

2. Where direct, quantifiable measures are not available, proxy measures may be used.

## E. Resource Options

1. In the development of its integrated resource plan, the utility shall consider all feasible supply-side and demand-side resource options appropriate to Hawai'i and available within the years encompassed by the integrated resource planning horizon to meet the stated objectives.

2. The utility shall include among the options the supply-side and demand-side resources or mixes of options currently in use, promoted, planned, or programmed for implementation, as well as potential or planned retirements of existing resources in favor of clean energy resources. Supply-side and demand-side resource options include those resources that are or may be supplied by persons other than the utility.

3. The utility shall initially identify all possible supply-side and demand-side resource options. The utility may, upon review and consultation with advisory group(s), screen out those options that are clearly infeasible. The utility, in consultation with advisory group(s), may establish criteria for screening out clearly infeasible options.

## F. Data Collection

1. For each feasible resource option, the utility shall determine its life cycle costs and benefits and its potential level of achievement of objectives. The utility shall identify the option's total costs and benefits--the costs to the utility and its ratepayers and the indirect, including external (spillover) costs and benefits. External costs and benefits include the cost and benefit impact on the environment, people's lifestyle and culture, and the State's economy.

2. To the extent helpful in analysis, the utility shall distinguish between fixed costs and variable costs and between sunk costs and incremental costs; and the utility shall identify any opportunity costs.

3. The costs and benefits shall, to the extent possible and feasible, be (a) quantified and (b) expressed in dollar terms. When it is neither possible nor feasible to quantify any cost or benefit, such cost or benefit shall be qualitatively measured. The methodology used in quantifying or in qualitatively stating costs and benefits shall be detailed.

## G. Assumptions; Risks; Uncertainties

1. The utility shall identify the assumptions underlying any resource option or the cost or benefit of any option or any analysis performed.

2. The utility shall also identify the risks and uncertainties associated with each resource option.

3. The utility shall further identity any technological limitations, infrastructural constraints, legal and governmental policy requirements, and other constraints that impact on any option or the utility's analysis.

## H. Models

1. The utility may utilize one or more generally accepted planning models or methodologies in comparing resource options and otherwise in analyzing the relative values of the various options or combinations of options.

2. Each model or methodology used must be fully described, documented, and explained in terms that a layperson can understand.

## I. Analyses

1. The utility shall conduct analyses to compare and weigh the various options and various alternative mixes of options. Alternative mixes of options include variously integrated supply-side and demand-side management programs.

2. The utility shall conduct such analyses from varying perspectives, including, as appropriate, the utility cost-benefit perspective, the ratepayer impact perspective, the participant impact perspective, the total resource cost perspective, and the societal cost-benefit perspective.

3. The utility shall analyze all options on a consistent and comparable basis. It shall give the costs, effectiveness, and benefits of demand-side management options consideration equal to that given to the costs, effectiveness, and benefits of supply-side options. The utility may use any reasonable and appropriate means to assure that such equal consideration is given.

4. The utility shall compare the options on the present value basis. For this purpose, the utility shall discount the estimated annual costs (and benefits,

as appropriate) at an appropriate rate. The utility shall fully explain the rationale for its choice of the discount rate.

5. The utility shall prioritize the various options and mixes of options based on the goal and principles set forth in Part II.A & B, supra, and upon such reasonable additional criteria as it may establish in consultation with advisory group(s).

## J. Resource Optimization

1. The utility, in consultation with advisory group(s), shall develop a number of alternative strategies to meet the planning objectives. Strategies may be based on any of various themes, including addressing specific scenarios or featuring specific resource options. A sufficient spectrum of strategies should be developed and analyzed to consider the scope of the identified plausible resource options and planning scenarios.

2. Based on its analyses, the utility, in consultation with advisory group(s), shall select those resource options or strategies that best achieve the planning objectives considered across the range of scenarios.

    a. The options or strategies shall be selected in a fashion as to achieve an integration of supply-side and demand-side options.

    b. The selection of options or strategies constitutes the utility's integrated resource plan.

3. For each strategy, the utility shall identify the revenue requirements on a present value and annual basis. It shall note the risks and uncertainties and describe the strategy's impact on rates, customer energy use, customer bills, and the utility system. It shall also describe the strategy's impact on external elements--the environment, people's lifestyle and culture, the State's economy, and society in general.

4. The utility shall rank the various strategies, based on such criteria as it may establish in consultation with advisory group(s). The utility shall designate one or some combination of these strategies as its preferred plan and submit to the commission the preferred plan as its proposed integrated resource plan, along with the alternative plans. It is recognized that the proposed integrated resource plan may not be the least expensive strategy and may include resource options and/or contingency measures to reasonably attain the planning objectives in light of uncertainty regarding the planning scenarios.

## K. Sensitivity Analysis

The utility shall subject its selection of resource options to sensitivity analysis by altering assumptions and other parameters.

PUBLIC UTILITIES COMMISSION

STATE OF ~~HAWAII~~HAWAI'I

# A FRAMEWORK FOR INTEGRATED RESOURCE PLANNING

March ~~9, 1992~~ , 2010

## I. DEFINITIONS

Unless otherwise clear from the context, as used in this framework:

"Action" (as used in the context of a utility action plan) means any specific activity (resource option, study, program, measure, etc.) that the utility intends to implement in order to provide required services and/or attain planning objectives.

"Action plan" means a program implementation schedule, as part of a utility's integrated resource plan, representing a strategy, including a timetable of programs, projects, and activities designed to meet energy objectives over the first five to ten year period of the 20-year planning horizon, including the State of Hawai'i's clean energy objectives.

"Capital investment costs" means costs associated with capital improvements, including planning, the acquisition and development of land, the design and construction of new facilities, the making of renovations or additions to existing facilities, the construction of built-in equipment, and consultant and staff services in planning, design, and construction. Capital investment costs for a program are the sum of the program~~'~~'s capital improvement project costs.

"CHP" means the production of useful heat and electricity from the same process or source.

"Clean energy" means electrical energy generated using renewable energy as a source or as electrical energy savings brought about by the use of renewable displacement or off-set technologies or energy efficiency technologies as defined as "renewable electrical energy" in HRS ch. 269, pt. V, § 269-91, as amended.

"Clean Energy Objectives" or "CE Objectives" means moving the State of Hawai'i off of fossil fuel use and on to Clean Energy use, as mandated by federal, State and county laws (including, but not limited to, HRS ch. 269, pt. V, as amended), and as may be informed by policy statements and guidance.

"Costs" means the full and life cycle costs of a resource option.

"Cost categories" means the major types of costs and includes research and development costs, investment costs, and operating and maintenance costs.



ATTACHMENT B

"Cost elements" means the major subdivision of a cost category. For the category "investment costs," it includes capital investment costs, initial equipment and furnishing costs, and initial education and training costs. For the categories "research and development costs" and "operating and maintenance costs," it includes labor costs, fuel costs, materials and supplies costs, and other current expenses.

"Demand-side management ~~programs~~" or "DSM" means ~~program~~programs designed to influence utility customer uses of energy to produce desired changes in electricity demand. ~~It includes~~, including, but not limited to, conservation, ~~load management, and efficiency resource programs.~~energy efficiency, demand response, load management, rate and fee design measures (e.g., declining block rate designs, generation hook-up fees, and standby charges), and renewable substitution.

"Design costs" means the costs related to the preparation of architectural drawings for capital improvements, from schematics to final construction drawings.

"Distributed Generation" or "DG" means electric generating technologies installed at, or in close proximity to, the end-user's location including, but not limited to, renewable energy and combined heat and power ("CHP") facilities, and dispatchable emergency generators.

"Effectiveness measure" means the criterion for measuring the degree to which the objective sought is attained.

"External benefits" means external economies; benefits to or positive impacts on the activities of entities outside the utility and its ratepayers. External benefits include environmental, cultural, and general economic benefits.

"External costs" means external diseconomies; costs to or negative impacts on the activities of entities outside the utility and its ratepayers. External costs include environmental, cultural, and general economic costs.

"Feed-in-Tariff" or "FIT" means a set of standardized terms and conditions, including published purchased power rates, which a utility shall pay for each type of renewable energy.

"Full cost" means the total cost of a program, system, or capability, including research and development costs, capital investment costs, and operating and maintenance costs.

"Hawai'i Revised Statutes" or "HRS" means current State laws governing the State of Hawai'i.

"Integrated Resource Plan" or "IRP" is a plan governed by this framework which provides mandatory guidelines for the utilities for meeting the utility's forecasted load over time with supply-side and demand-side resources consistent with clean energy objectives.

"Investment costs" means the one-time costs beyond the development phase to introduce a new system, program, or capability into use. It includes capital investment costs, initial equipment acquisition costs, and initial education and training costs.

"Life cycle costs" means the total cost impact over the life of the program. Life cycle costs include research and development cost, investment cost (the one-time cost of instituting the program), and operating and maintenance (O&M) cost.

~~"Objective" means a statement of the end result, product, or condition desired, for the accomplishment of which a course of action is taken.~~
"Net Energy Metering" or "NEM" is a service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility ("customer-generator") and delivered to the local distribution facilities that is used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.

"Operating and maintenance costs" or "O&M costs" means recurring costs of operating, supporting, and maintaining authorized programs, including costs for labor, fuel, materials and supplies, and other current expenses.

"Participant impact" means the impact on participants in a demand-side management program in terms of the costs borne and the direct, economic benefits received by the participants.

"Planning objectives" are desired outcomes to be attained by actions by the utility and Public Benefits Fee Administrator.

"Program" means ~~a combination of~~projects, resources and/or activities ~~designed to achieve an objective or objectives.~~in a strategy, scenario and/or the Action Plan.

~~"Program size" means the magnitude of a program, such as the number of persons serviced by the program, the amount of a commodity, the time delays, the volume of service in relation to population or area, etc.~~

~~"Program size indicator" means a measure to indicate the magnitude of a program.~~
"Public Benefit Fee Administrator" or "PBF Administrator" means the third-party administrator of energy efficiency demand-side management programs as defined in HRS ch. 269, pt. VII, § 269-122.

"Ratepayer impact" means the impact on ratepayer in terms of the utility rates that ratepayers must pay.

"Research and development costs" means costs associated with the development of a new system, program, or capability to the point where it is ready for introduction into

operational use. It includes the costs of prototypes and the testing of the prototypes. It includes the costs of research, planning, and testing and evaluation.

"Renewable Portfolio Standards" or "RPS" means the State of Hawai'i's renewable portfolio standards as defined in HRS ch. 269, pt. V.

"Request for Proposals" or "RFP" means a written request for proposals issued by an electric utility or other entity to solicit bids from interested parties for provision of supply-side or demand-side resources or services to a utility pursuant to an applicable competitive bidding process.

"Resource option" is a program, generation unit, tariff provision, or any other measure (collectively "measures") that would contribute to meeting energy needs or attainment of planning objectives. Resource options would include measures that could be implemented by the utility, the public benefit fee administrator or the Commission as well as those measures anticipated to be implemented by other entities (such as State of Hawai'i programmatic governmental agency efficiency measures).

"Scenario" is a distinctive set of possible, plausible circumstances that would have a major effect on resource planning decisions. Scenarios would be explicitly identified in the planning process in order to (a) provide an appropriate breadth to the scope of plausible analysis assumptions utilizing stakeholder participation, (b) frame meaningful planning objectives and measures of attainment and (c) test the "robustness" of candidate strategies with respect to a range of possible future circumstances. Scenarios could be formulated based on possible circumstances including those that are outside the control of the utilities and Commission and those that based on major "game changing" resource strategies (such as an inter-island cable system).

"Societal cost" means the total direct and indirect costs to society as a whole. Society includes the utility and, in a demand-side management program, the participants.

"Societal cost-benefit assessment" means an assessment of the costs and benefits to society as a whole.

"Strategy" is a set of perspective resources and actions that are designed to meet the planning objectives. A strategy is similar to what the HECO Companies have referred to as "candidate plans" in the IRP applications filed under the existing IRP Framework except that a strategy could also include appropriate contingency planning, parallel planning measures to address future uncertainties. In the planning process each strategy would be assessed with respect to the various identified scenarios. An action plan would be identified to implement a preferred strategy and/or to maintain flexibility to implement more than one possible preferred strategy or one or more contingency strategies.

"Supply-side programs" means programs designed to supply power~~. It includes~~ either to the utility grid or to a particular customer or entity, including, but not limited to, renewable energy, CHP, and independent power producers.

"Total resource cost" means the total cost of a demand-side management program, including both the utility and participants' costs.

"Utility" or "Public Utility" an organization that maintains the infrastructure for a public service (often also providing a service using that infrastructure). In the case of electrical service, the organization can be privately-owned, such as Hawaiian Electric Company, Inc., the Hawaii Electric Light Company, Inc., the Maui Electric Company, Ltd., or publicly-owned such as a municipal, or member-owned such as a cooperative, as in the case for Kauai Island Utility Cooperative. Other public utilities can provide natural gas (or as in the case of The Gas Company, propane and synthetic gas), water or sewage services.

"Utility cost" means the cost to the utility (including ratepayers), excluding costs incurred by participants in a demand-side management program.

"Utility cost-benefit assessment" means an assessment of the costs and benefits to the utility.

## II. INTRODUCTION

### A. Goal of Integrated Resource Planning

The goal of integrated resource planning is ~~the identification of the resources or the mix of resources for meeting near and long term consumer energy needs in an efficient and reliable manner at the lowest reasonable cost~~to employ a comprehensive and flexible planning process to develop and implement integrated resource plans which shall govern utility acquisition and utilization of all capital projects, purchased power, and demand-side management toward achieving and exceeding Clean Energy Objectives ("CE Objectives") in an efficient, economical, and prudent manner that promotes Hawai'i as a leader in the adoption and use of clean energy and facilitates Hawai'i's swift transition to a clean energy future.

### B. Governing Principles (Statements of Policy)

1. The development of integrated resource plans ~~is~~are the responsibility of each utility, in consultation with advisory group(s), non-utility stakeholders, and the public, and with the oversight and approval of the commission.

2. Integrated resource plans shall comport with federal, state, and county environmental, health, and safety laws and formally adopted state and county plans.

3. Integrated resource plans shall be developed upon consideration and analyses of the short- and long-term costs, ~~effectiveness, and~~ benefits ~~of~~,

and risks associated with all appropriate~~, available,~~ and feasible supply-side and demand-side ~~options.~~distributed generation and energy management resources

4. Integrated resource plans shall ~~give consideration to the plans' impacts upon the utility's consumers, the environment, culture, community lifestyles, the State's economy, and society~~consider technological advances in the utility's transmission and distribution infrastructure plans such as advanced data acquisition and system controls (i.e., smart grid), energy storage, or changes in the utility's operating procedure.

5. Integrated resource plans shall consider the plans' impact on utility customers, environmental and cultural resources, the local economy, and the broader society.

6. ~~5.~~Integrated resource plans shall take into consideration ~~the~~a utility's financial integrity, size, and physical capability.

7. ~~6.~~Integrated resource planning shall be an open public process~~. Opportunities shall be provided for participation by the public and governmental agencies in the development and in commission review of integrated resource plans.~~ which shall maximize public involvement to enable mutual collaboration, communication, and feedback between the utility and non-utility stakeholders and the public and create broad-based awareness and support for achieving and exceeding CE Objectives.

8. ~~7. The~~A utility ~~is~~and intervenors are entitled to recover all appropriate and reasonable integrated resource planning ~~and implementation costs. In addition, existing disincentives should be removed and, as appropriate, incentives should be established to encourage and reward aggressive utility pursuit of demand-side management programs. Incentive mechanisms should be structured so that investments in suitable and effective demand-side management programs are at least as attractive to the utility as investments in supply-side options.~~costs as approved by the Commission.

9. Integrated resource plans shall prioritize and encourage the increased use of distributed generation over centralized fossil-based generation.

10. Integrated resource plans shall seek to achieve and exceed CE Objectives, including the economic and environmental benefits associated with achievement of energy independence.

11. Integrated resource plans shall take into consideration the need to prevent or minimize power outages during and after disaster situations.

12. Integrated resource planning shall be based upon and incorporate to the extent reasonable the successful elements of the planning process utilized

by utilities and Independent System Operators working in conjunction with various stakeholders in other jurisdictions.

13. Integrated resource plans shall prioritize resource acquisition and integration such that demand-side management programs and renewable energy resources are first optimized before consideration is given to fossil-based resources.

14. No customer or third party shall be required to disclose confidential information during the collection of data for integrated resource planning-related proposals or programs.

15. Integrated resource plans shall address all technical barriers to achieving CE Objectives.

## C. Utility[']s Responsibility

1. Each utility is responsible for developing and maintaining a plan or plans for meeting the energy needs of its customers.

2. The utility shall prepare and submit to the commission for commission ~~approval~~review at the time or times specified ~~in this framework~~by the commission the utility[']s integrated resource plan and ~~program implementation schedule~~action plan.

3. The utility shall ~~execute~~maintain at all times a current and up-to-date resource analysis capability and respond to requests for information and analysis by the commission ~~approved plan in accordance with the program implementation schedule~~.

4. ~~The utility shall annually examine and evaluate its achievements in attaining its objectives.~~The utility shall maintain and make publicly available at all times a current and up-to-date action plan.

5. The utility shall maintain and make publically available at all times current and up-to-date information regarding its avoided costs, renewable energy and capacity wholesale purchase tariffs and all current, pending or planned resource acquisition tariffs, programs, requests for proposals or bid offerings.

## D. Commission[']s Responsibility

1. The commission[']s responsibility, in general, is to review the utility's plans and planning assumptions and determine whether ~~the utility's plan represents a reasonable course~~they represent a reasonable set of assumptions for evaluating capital projects, resource acquisition programs, contracts or other utility commitments for meeting the energy needs of the

utility~~'~~s customers and is in the public interest and consistent with the goals and objectives of integrated resource planning.

2. ~~Specifically, the~~The commission will review the utility~~'~~s integrated resource plan, its program implementation schedule, and its evaluations, and generally monitor the utility~~'~~s implementation of its plan. Upon review, the commission may approve, reject, approve in part and reject in part~~,~~ or require modifications of the utility~~'~~s integrated resource plan ~~and program implementation schedule~~, action plan and planning assumptions.

3. The ~~parties shall cooperate in expediting commission hearings on the utility's~~ commission will require the provision of planning information and analysis by the utility as necessary at any time to provide context and information in any regulatory matters before the commission. The commission will decide at the time it requires any information or analysis the extent to which the integrated resource plan ~~and program implementation schedule. To the extent possible, the commission will hear the utility's application for approval of its integrated resource plan within six months of the plan's filing, and the commission will render its decision shortly thereafter~~advisory group(s), parties and/or participants will be allowed to provide responses to the commissions request for information and/or comments regarding the utility's response(s).

4. The commission staff (or one or more commissioners) may preside over part of occasional advisory group meetings to invite and obtain comments and positions of advisory group members.

5. The commission may, as it finds necessary, issue orders to provide relief (i.e., require consideration by the utility of certain circumstances, resources or scenarios) recommended by advisory group members, parties or participants.

## E. Consumer Advocate~~'~~s Responsibility

1. The director of commerce and consume affairs, as the consumer advocate and through the division of consumer advocacy, has the statutory responsibility to represent, protect, and advance the interest of consumers of utility services. The consumer advocate, therefore, has the duty to ensure that the utility~~'~~s integrated resource plan promotes the interest of utility consumers.

2. The consumer advocate shall be a party to each utility~~'~~s integrated resource planning docket and a member of any and all advisory groups established by the utility in the development of its integrated resource plan. The consumer advocate shall also participate in all public

~~hearing~~hearings and other sessions held in furtherance of the utility's efforts in integrated resource planning.

**E. Public Benefit Fee Administrator's Responsibility**

1. The Public Benefit Fee Administrator (PBFA) is a contractor to the Commission and has a unique role as a provider of ratepayer funded energy services.

2. The energy efficiency programs managed by the PBFA serve purposes that are closely integrated with the services provided by the energy utilities. Together, the programs managed by the PBFA and the services provided by the energy utilities need to meet energy consumer needs reliably and economically. The PBFA programs serve as important components of utility plans, can serve as alternatives to or means to defer utility capital expenditures, and are relied upon by the utilities to meet energy service requirements. It is therefore necessary that utility planning include consideration of the optimal targeting, design objectives and role of the PBFA energy efficiency programs in the context of utility plans.

3. The specific design of the energy efficiency programs managed by the PBFA, however, must reside with the PBFA to the extent that the PBFA is responsible for the efficacy of these programs and to the extent specified by contract or otherwise determined by the commission.

4. The PBFA should be a participant in the utility planning process and should have a unique role as the primary implementer of a fundamental component of Hawai'i's energy utility resource strategy. The PBFA should provide information to the utility planning process regarding the nature of existing, planned and potentially feasible programs, the expected cost and impacts of these programs as well as any other relevant issues or uncertainties. The utility planning process should evaluate the existing, planned and potentially feasible energy efficiency programs to determine which are the most cost-effective in terms of avoiding short run and long run utility costs, the extent to which these programs can meet utility and State planning objectives and how these programs might best be targeted geographically or temporally.

5. The PBFA and the utility shall cooperate interactively to determine an optimal portfolio of programs to be implemented by the PBFA.

## III. THE PLANNING CONTEXT

### A. Major Steps

There are four major steps in the integrated resource planning process: planning, programming, implementation, and evaluation.

1. Planning is that process in which he utility's needs are identified; the utility's objectives are formulated; measures by which effectiveness in attaining objectives are specified; the alternatives by which the objectives may be
attained are identified; the full cost, effectiveness, and benefit implications of each alternative are determined; the assumptions, risks, and uncertainties are clarified; the cost, effectiveness, and benefit tradeoffs of the alternatives are made; the resource options are ~~chosen~~examined, screened and evaluated; and resource and program choices are subjected to sensitivity analyses. The product of this process is the utility's integrated resource plan. The planning horizon for utility integrated resource plans is 20 years. ~~Unless otherwise ordered by the commission, the 20-year period begins on January 1 following the completion of the plan.~~

2. Programming is that process by which the utility's long-range resource program plans are scheduled for implementation over a five to ten-year period. In this process, a determination is made as to the order in which the selected program options are to be implemented; the phases or steps in which each program is to be implemented; the expected target group and the annual size of the target group or annual level of penetration of demand-side management programs; the expected annual supply-side capacity additions; the expected annual levels of effectiveness in achieving integrated resource planning objectives; and the annual expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of the programs. The result of this process is ~~a program implementation schedule or~~an action plan. The ~~schedule~~action plan represents an implementation strategy ~~or~~and timetable for program implementation. The action plan shall address utility actions for a five to ten year period.

3. Implementation is that process by which the resource program options to be implemented are acquired and instituted in accordance with the utility's program implementation schedule.

4. Evaluation is that process by which the results of the resource program options are measured in light of the utility's objectives. In this process the actual costs, effectiveness, and benefits of the resource options and the attainment of the utility's objectives are measured against those that were projected in the planning and programming stages of the planning cycle.

## B. The Planning Cycle

There are four main components of the integrated resource planning cycle:

1. ~~Each~~Three Year Major Review. A major review of the utility ~~shall complete its initial~~twenty-year integrated resource plan ~~and~~

~~implementation schedule and submit them for commission approval by the following dates~~, planning assumptions and action plan(s) each three years:

a. ~~Kauai Electric Division of Citizens Utilities Company: May 1, 1993.~~The commission will initiate each three year planning cycle by establishing one or more dockets to administer the planning process for each utility with a three-year cycle for major reviews.

(1) The commission shall establish one or more advisory groups for each utility and/or for several energy utilities collectively.

(2) The commission may establish one or more technical advisory groups or technical advisory committees within advisory groups to assist in monitoring, evaluating and interpreting the assumptions, modeling and analysis utilized in the preparation of the utility integrated resource plans and action plans.

b. ~~Gasco, Inc.: May 1, 1993.~~At the beginning of each three-year IRP review cycle the commission may (independently or after a public meeting) specify:

(1) questions and issues that the specific round of IRP analysis and the resulting plan should address, and

(2) any specific objectives or scenarios that should be considered in that specific round of IRP analysis.

c. ~~Hawaiian Electric Company, Inc.: July 1, 1993.~~The three year planning cycle shall establish and review:

~~d. Hawaii Electric Light Company, Inc.: September 1, 1993.~~

~~e. Maui Electric Company, Limited: November 1, 1993.~~

(1) planning assumptions (projected demand, fuel prices, resource characteristics), including identification of possible future scenarios to be considered in developing plans and action plans.

(2) analytical methods (integration modeling, rate impact analyses, etc), including methods to consider identified scenarios.

(3) a base long range (20 year) resource plan.

(4) a five year (or longer) action plan.

2. ~~Each utility shall conduct a major review of its integrated resource plan every three years. In such a review, a new 20-year time horizon shall be adopted, the planning process repeated, and the utility's resource programs re-analyzed fully. The first major review, following the submission of each utility's initial integrated resource plan to the commission in 1993, shall commence in 1995 so as to result in the submission to the commission of a new (second) integrated resource plan and implementation schedule in 1996 as follows:~~Ongoing Analysis and Planning Capability.

   a. Each utility would maintain a modeling and analysis capability that is current and up to date at all times.

      (1) On an ongoing basis, the utility shall update all important planning assumptions, forecasts, demand estimates, etc. as frequently as circumstances require and configure the planning process analytical models accordingly.

      (2) The utility shall notify the commission and shall notify and solicit comments to be forwarded to the commission from all planning docket parties and advisory group(s) whenever planning assumptions are updated.

   b. As needed for any regulatory purposes, the commission will request prompt and timely analysis from the utilities based on current, up-to-date planning assumptions.

      (1) In the context of any docket, the commission may issue information requests to the utility requesting information and/or analysis based on current planning assumptions and modeling analysis capability.

      (2) Planning docket parties and utility advisory group members shall be notified of any requests for information or analysis and documents shall be made available via the Commission's Document Management System.

      (3) The commission may, at its discretion, issue any information requests and/or responses by the utility to the planning docket parties or participants, the advisory group(s) or any technical advisory group(s) or commitee(s) for review and comment.

3. Current Action Plan.

   a. ~~Hawaiian Electric Company, Inc.: January 1, 1996.~~Each utility shall maintain a current, up-to-date action plan at all times.

(1) To the extent that circumstances or changes in planning assumptions substantially affect the merits of the base resource plan or action plan, the Commission, parties and advisory group shall be notified.

(2) Action plans shall be updated in accordance with supporting analytical methods and with the informed advice of the parties and advisory group.

b. ~~Kauai Electric Division of Citizens Utilities Company: April 1, 1996.~~ Modified (updated) action plans would be prospective pending any explicit approval of any action plan components by the commission but would always be kept up-to-date and publicly accessible to inform all stakeholders of current planning assumptions presumed by the utility.

(1) Actions proposed by the utility in any docket before the commission would be reviewed by the commission in light of the current, most recently approved action plan.

(2) If proposed actions are not consistent with the most recently approved action plan, the proposed actions must be consistent with the current updated action plan which should be reviewed by the commission prior to or concurrently with the commission's review of the proposed action with the informed advice of the planning docket parties and advisory group(s).

c. ~~Gasco, Inc.: April 1, 1996.~~ Any approval of modifications to the utility integrated resource plan or action plan in a docket that considers actions not consistent with the approved utility integrated resource plan or approved action plan shall be made with the informed advice of the planning docket parties and participants in the advisory group(s). The utility shall specify and, after opportunity for comment by the planning docket parties and participants in the advisory group(s), the commission shall determine:

~~d. Hawaii Electric Light Company, Inc.: June 1, 1996.~~

~~e. Maui Electric Company, Limited: October 1, 1996.~~

~~Thereafter, each utility shall conduct a major review, resulting in the submission to the commission of a new integrated resource plan and implementation schedule on the same day every three years.~~

(1) The extent to which any proposed actions are not consistent with the approved integrated resource plan and approved action plan.

(2) The extent to which any proposed actions would affect any other aspects of the approved integrated resource plan and approved action plan.

(3) Whether the proposed actions and resulting associated changes in the integrated resource plan and action plan are reasonable and in the public interest.

4. Evaluations.

a. As required by the commission each utility shall provide evaluations of the implementation of integrated resource plans, action plans and the attainment of planning objectives and statutory objectives.

## C. The Docket

1. Each planning cycle for a utility will commence with the issuance of an order by the commission opening a docket for integrated resource planning.

2. The docket will be maintained throughout the planning cycle for the filing of documents, the resolution of procedural disputes and other purposes related to the utility~~'~~'s integrated resource plan.

3. Within 30 days after the opening of the docket or, if petitions to intervene are filed within twenty days of the opening docket, by a date specified by the commission, the utility and parties shall prepare~~, in consultation with the consumer advocate~~, and file with the commission a proposed procedural order and procedural schedule ~~that it intends to follow in~~for the development of ~~its~~the utility integrated resource plan and action plan.

a. The ~~schedule may be amended upon the formation of an advisory group or groups and thereafter as appropriate~~procedural schedule shall identify several stages of the planning process and specify dates, at each stage, for filings with the commission by the utility and parties and allowing filing of comments by participants in the advisory group(s). Stages shall include:

(1) Identification and determination of scenarios and planning assumptions.

(2) Identification and determination of analytical methods and models including methods to evaluate identified scenarios.

(3) Identification of candidate resource strategies to be evaluated.

(4) Proposed integrated resource plan(s) and action plan(s).

4. The utility shall complete its integrated resource plan and program implementation schedule within one year of the commencement of the planning cycle or according to a schedule approved by the commission.

5. Any party or advisory group member could petition the Commission at any time requesting the Commission's attention to review or take action regarding changes to planning assumptions or changes in action plans.

a. Parties or participants may request relief from the Commission by motion.

b. Parties, participants or advisory group members may petition the commission for action regarding changes to planning assumptions, long range plans or action plans by an informally by letter. Any such requests will conform to the requirements in the commission's existing rules regarding informal complaints.

## D. Submissions to the Commission

1. ~~The~~In each three year general review, the utility shall submit its integrated resource plan as follows.

a. The utility shall include in its integrated resource plan a full and detailed description of (1) the generation, major distribution, and transmission needs identified; (2) the forecasts made, including supply- and demand-side distributed generation forecasts; (3) the assumptions underlying the forecasts; (4) the objectives to be attained by the plan; (5) the measures by which achievement of the objectives is to be assessed; (6) the resource options or mix of options included in the plan; (7) the assumptions and the basis of the assumptions underlying the plan; (8) the risks and uncertainties associated with the plan; (9) the revenue requirements on a present value basis and on an annual basis; (10) the expected impact of the plan on demand; (11) the expected achievement of objectives; (12) the potential impact of the plan on rates, and consumer bills, including any potential rate and billing impacts due to possible rate equalization measures between utility service territories, and consumer energy use; (13) the plan's external costs and benefits; and (14) the relative sensitivity of the plan to changes in assumptions and other conditions. The items enumerated should, where appropriate, be described for the plan as a whole and for each of the resources or mix of resources included in the plan.

b. The utility shall file with the integrated resource plan a full and detailed description of the analysis or analyses upon which the plan is based. The utility shall fully describe, among other things, (1) the data (and the source of the data) upon which needs were identified and forecasts made; (2) the methodologies used in forecasting; (3) the various objectives and measures of assessing attainment of objectives that were considered, but rejected, and the reasons or rejecting any objective or measure; (4) the resource options that were identified, but screened out and not considered and the reasons for the rejection of any resource option; (5) the assumptions and the basis of the assumptions, the risks and uncertainties, the costs, effectiveness, and benefits (including external costs and benefits) and the impacts on demand, rates, consumer bills, and consumer energy uses associated with each resource option or mix of options that was considered; (6) the comparisons and the cost, effectiveness, and benefit tradeoffs and optimization made of the options and mixes of options; (7) the models used in the comparisons, tradeoffs, and optimization; (8) the criteria used in any ranking of options and mixes of options; and (9) the sensitivity analyses conducted for the options and mixes of options.

c. The utility shall also file with the integrated resource plan a description of all alternate plans that the utility developed, the ranking it accorded the various plans, the criteria used in such ranking, and a full and detailed explanation of the analysis upon which it decided its preferred integrated resource plan.

d. The submissions should be simply and clearly written and, to the extent possible, in non-technical language. Charts graphs, and other visual devices may be utilized to aid in understanding its plan and the analyses made by the utility. The utility shall provide an executive summary of the plan and of the analyses and appropriately index its submissions.

2. ~~The~~In each three year general review, the utility shall submit its ~~program implementation schedule~~action plan as follows.

a. The utility shall include in the ~~schedule~~action plan by year: the programs or phases of programs to be implemented in the year; the expected level of achievement of objectives; the expected size of the target group or level of penetration of any demand-side management program; the expected supply-side capacity addition; the expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of each program or phase of a program.

b. The utility shall file with its ~~program implementation schedule~~action plan a full and detailed description of the analysis upon which the schedule is based. The utility shall fully describe, among other things:

(1) The steps required to realize and implement the supply-side and demand-side resource programs included in the schedule.

(2) How the target groups were selected and how program penetration for demand-side management programs and the expected levels of effectiveness in achieving integrated resource planning objectives were derived.

(3) The expected annual effects of program implementation on the utility and its system, the ratepayers, the environment, public health and safety, cultural interests, the state economy, and society in general.

c. The program implementation schedule shall also be accompanied by the utility's proposals on cost and revenue loss recovery and incentives, as appropriate.

d. The utility shall include the expected transmission system additions and the estimated cost required to be made by the utility to support the implementation of the transmission additions.

e. The utility shall include the identification of the expected major distribution system additions.

f. The utility shall include identification of smart grid improvements and upgrades to the utility system and the estimated cost required to be made by the utility to support the implementation of any smart grid improvements.

3. The utility shall ~~submit its annual evaluation as follows~~regularly update its action plan as circumstances require so as to always maintain a current and up-to-date action plan.

a. The utility shall ~~include in its annual evaluation~~make, on an ongoing basis, an assessment of the continuing validity of the forecasts and assumptions upon which its integrated resource plan and its ~~program implementation schedule~~action plan were fashioned.

b. The utility shall also include for each program or phase of program included in the ~~program implementation schedule for the~~

~~immediately preceding year a comparison of~~action plan current information as follows:

(1) The expenditures anticipated to be made and the expenditures actually made~~, by cost categories and cost elements.~~

~~(2) The level of achievement of objectives anticipated and the level actually attained.~~ for each program or action identified in the action plan.

(2) ~~(3)~~ The target group size or level of penetration anticipated for each demand-side management program and the size or level actually realized.

(3) ~~(4)~~ The effects of program implementation anticipated and the effects actually experienced.

~~c. The utility shall provide an assessment of all substantial differences between original estimates and actual experience and of what the actual experience portends for the future.~~

~~d. Together with its annual evaluation, the utility shall submit a revised program implementation plan that drops the immediately preceding year from the schedule and includes a new year. The program implementation plan must always reflect a five year time span.~~

4. The utility may at any time, as a result of ~~its annual evaluation or~~a change in conditions, circumstances, or assumptions, revise or amend its integrated resource plan or its ~~program implementation schedule. All revisions and amendments must conform to the appropriate requirements of this part D~~action plan. Modified (updated) action plans would be prospective pending any explicit approval of any action plan components by the commission but would always be kept up-to-date and publicly accessible to inform all stakeholders of current planning assumptions presumed by the utility.

5. The integrated resource plan and ~~program implementation schedule approved by the commission shall govern~~action plan shall serve as the context and analytical basis for the regulation of all utility expenditure for capital projects, purchased power, and demand-side management programs. Notwithstanding approval of an integrated resource plan: (a) an expenditure for any capital project in excess of ~~$500,000~~2,500,000 shall be submitted to the commission for review as provided in paragraph 2.3.g.2 of General Order No.7; and (b) no obligation under any purchased power contract shall be undertaken and no expenditure for any specific demand-side management or demand response program included in an

integrated resource plan or ~~a program implementation schedule~~action plan shall be made without prior commission approval. All power purchases from qualifying facilities and independent power producers shall be subject to statute and commission rules.

6. The commission, upon a showing that a utility has an ownership structure in which there is no substantial difference in economic interests between its owners and customers, may waive or exempt that utility from any or all provisions of this framework, as appropriate.

## E. Public Participation

To maximize public participation in each utility's integrated resource planning process, opportunities for such participation shall be provided through advisory groups to the utility, public hearings, and interventions in formal proceedings before the commission.

1. Advisory groups

   a. The ~~utility~~commission shall organize ~~in each county in which the utility provides service or conducts utility business~~ a group or groups of representatives of public and private entities to ~~advise the~~provide independent review and input to each utility and the commission in the ~~development of its~~ integrated resource ~~plan. A separate~~planning process. Different advisory groups or committees within an advisory group may be formed for ~~each stage of~~different issues related to the planning process, as appropriate. ~~The utility shall chair each advisory group.~~

   b. An independent facilitator appointed by the commission shall chair each advisory group. The costs of the independent facilitator shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning. The commission, by its staff or one or more commissioners, may participate in advisory group meetings to receive input from advisory group members.

   c. The membership of each advisory group shall be independent of any utility and be able to provide significant perspective or useful expertise in the development of the utility's integrated resource plan. The commission shall establish the membership of each advisory group as follows:

      (1) Governmental members of each advisory group shall include, at minimum, the Consumer Advocate or the Consumer Advocate's designee, the director of the State of Hawai'i Department of Business, Economic Development & Tourism or the director's designee, and the mayor of the

county in which the utility in question provides service or conducts utility business or the mayor's designee.

(2) Nongovernmental members shall include representatives of environmental, cultural, business, consumer, and community interests, and individuals with useful expertise in each county in which the utility provides service or conducts utility business.

(3) Parties admitted into the integrated resource planning docket shall be allowed to participate as advisory group members, as the commission deems appropriate.

(4) ~~b. The public and private entities includable in an advisory group are those that represent interests that are affected by the utility's integrated resource plan and that can provide significant perspective or useful expertise in the development of the plan. These entities include state and county agencies and environmental, cultural, business, and community interest groups. An advisory group should~~Each advisory group shall be representative of as broad a spectrum of interests as possible, subject to the limitation that the interests represented should not be so numerous as to make deliberations as a group unwieldy.

~~c. The utility shall consider the input of each advisory group; but the utility is not bound to follow the advice of any advisory group.~~

d. Each advisory group shall hold meetings during key phases of a utility's integrated resource planning process, with a minimum of quarterly meetings and more frequent meetings to the extent meaningful and practical.

e. If a utility is considering the use of an energy resource located in another utility's service territory, then that utility shall confer with the advisory group representing the service territory of the energy resource under consideration.

f. ~~d. All~~Each utility shall provide all data reasonably necessary for an advisory group to participate in ~~the~~that utility~~'~~'s integrated resource planning process ~~shall be provided by the utility~~, subject to the need to protect the confidentiality of customer-specific and proprietary information, provided that such customer-specific and proprietary information shall not be withheld where there are mechanisms to protect confidentiality.

g. An advisory group participating in a utility's integrated resource planning process, or qualified person(s) representing the advisory

group, shall be permitted to inspect and evaluate that utility's modeling, including but not limited to reviewing the inputs the utility has used for the modeling.

h. Upon request from an advisory group, the Consumer Advocate, the State of Hawai'i Department of Business, Economic Development & Tourism, or a county represented in the advisory group, the utility shall use its modeling tools to run alternative scenarios based on alternate assumptions. At the utility's request, the commission may limit requests that are unduly repetitious or burdensome.

i. The Public Benefits Fee Administrator shall provide all data reasonably necessary for an advisory group to participate in developing and evaluating forecasts of energy efficiency programs.

j. ~~e.~~ The use by the advisory groups of the collaborative process is encouraged to arrive at a consensus ~~on issues.~~ regarding recommendations or findings on issues. If consensus is not possible, recommendations or findings of an advisory group may be made by the vote of not less than the majority of the entire membership of that advisory group.

k. If a utility does not follow a recommendation or finding of an advisory group, it must provide to the advisory group and file with the commission a detailed justification why the recommendation or finding should not be adopted. The advisory group and/or its members shall have an opportunity to respond to the filing.

l. At any point during the integrated resource planning process, an advisory group or one or more of its members may request interim relief from the commission to resolve a significant dispute with the utility in the implementation of the planning process. Such a request will be handled as an informal complaint under the commission's rules.

m. ~~f.~~ All reasonable out-of-pocket costs incurred by ~~participants in~~ the members of the advisory groups (other than governmental agencies) participating in a utility's integrated resource planning process shall be paid for by ~~the~~ that utility, subject to recovery as part of ~~the~~ that utility~~'~~'s cost of integrated resource planning.

2. Public ~~hearings~~input

a. ~~The~~Each utility is encouraged to conduct public ~~hearings~~meetings or provide public forums at the various, discrete phases of the planning process for the purpose of securing ~~the input of those~~

~~members of the public who are not represented by entities constituting advisory groups.~~public input.

b. Prior to filing a request for approval of an integrated resource plan, each utility shall provide an opportunity for public review and comment on the proposed plan during a period of not less than sixty (60) days. During each such public comment period, the utility shall hold at least one public hearing on each island that would be affected by the proposed integrated resource plan at which the public will have the chance to ask questions, seek clarification, raise concerns, and make comments and suggestions.

c. Each utility preparing an integrated resource plan shall assess and consider comments received during the public review and comment period and shall respond by one or more of the means listed below, stating its response in the request for approval filed with the commission:

(1) Modify the plan;

(2) Develop and evaluate alternatives not previously given serious consideration by the utility;

(3) Supplement, improve, or modify its analysis;

(4) Make factual corrections; and/or

(5) Explain why the comments do not warrant further response, citing the sources, authorities, or reasons that support the utility's position and, if appropriate, indicate those circumstances that would trigger utility reappraisal or further response.

d. ~~b.~~ Upon the filing of requests for approval of an integrated resource plan ~~or projects~~, the commission may, and it shall where required by statute, conduct public hearings for the purpose of securing additional public input on the utility~~'~~'s proposal. The commission may also conduct such informal public meetings as it deems advisable.

3. Intervention

a. Upon the filing of its integrated resource plan, the utility shall cause to be published in a newspaper of general circulation in the State a notice informing the general public that the utility has filed its proposed integrated resource plan with the commission for the commission~~'~~'s approval. The commission and the utility shall also post such public notice online on their respective websites.

b. To encourage public awareness of the filing of a proposed utility plan, a copy of the proposed plan and the supporting analysis shall be available for public review at the commission's office and at the office of the commission's representative in the county serviced by the utility. ~~In the case of Maui Electric Company, Limited, the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library on each of the islands of Molokai and Lanai. In the case of Hawaii Electric Light Company, Inc., the utility shall also make a copy of its proposed plan and the supporting analysis available at a public library in Kona~~The commission and the utility shall provide electronic copies of these documents online on their respective websites. Each utility shall note the availability of the documents for public review at these locations in its published notice. The utility shall make copies of the executive summary of the plan and the analysis available to the general public at no cost, except the cost of duplication.

c. Applications to intervene or to participate without intervention in any proceeding in which a utility seeks commission approval of its integrated resource plan are subject to the rules prescribed in part IV of the commission's General Order No.1 (Practice and Procedure before the Public Utilities Commission); except that such applications may be filed with the commission not later than 20 days after the publication by the utility of a notice informing the general public of the filing of the utility's application for commission approval of its integrated resource plan, notwithstanding the opening of the docket before such publication.

d. A person's status as an intervenor or participant shall continue through the life of the docket, unless the person voluntarily withdraws or is dismissed as an intervenor or participant by the commission for cause.

4. Intervenor funding

a. Upon the issuance of the commission's final order on a utility's integrated resource plan or any amendment to the plan, the commission may grant an intervenor or participant (other than a governmental agency, a for-profit entity, and an association of for-profit entities) recovery of all or part of the intervenor's or participant's direct out-of-pocket costs reasonably and necessarily incurred in intervention or participation. Any recovery and the amount of such recovery are in the sole discretion of the commission.

b. To be eligible for such recovery:

(1) The intervenor or participant must show a need for financial assistance;

~~(2) The intervenor or participant must demonstrate that it has made reasonable efforts to secure funding elsewhere, without success;~~

(2) ~~(3)~~ The intervenor or participant must maintain accurate and meaningful books of account on the expenditures incurred; and

(3) ~~(4)~~ The commission must find that the intervenor or participant made a substantial contribution in assisting the commission in arriving at its decision.

c. The intervenor~~'~~s or participant~~'~~s books of account are subject to audit, and the commission may impose other requirements in any specific case.

d. Such ~~allowance~~recovery may be ~~made only~~provided upon the application of the intervenor or participant within ~~20~~30 days after the issuance of the commission~~'~~s final order (or the entry of a settlement between the parties), together with justification and documented proof of the costs incurred.

e. The commission may provide for recovery via periodic installments during the course of a proceeding. To be eligible for this option, the intervenor or participant shall file a notice of intent to seek recovery and an estimated budget within 30 days after being granted intervention or participation. The intervenor or participant may thereafter make periodic applications for recovery during the proceeding, within the final deadline specified above. The intervenor or participant may request to revise the estimated budget as appropriate.

f. ~~e.~~ The costs of intervenor funding shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning.

~~F. Cost Recovery and Incentives~~

~~1. The utility is entitled to recover its integrated resource planning and implementation costs that are reasonably incurred, including the costs of planning and implementing pilot and full-scale demand-side management programs.~~

~~a. The cost recovery may be had through the following mechanisms:~~

(1) Base rate recovery--the inclusion of costs in the utility's base rate during each rate case. A balancing account may be appropriate in this instance to reconcile, with interest, the utility's recovered expenditures with its actual expenditures. It may also be appropriate to consider the utility's under-expenditure of authorized cost to limit recovery, unless program objectives are met or exceeded.

(2) Adjustment clause--the recovery of costs incurred between rate cases in excess of the baseline integrated resource planning-related costs that are included in the utility's base rates.

(3) Ratebasing--the inclusion of costs that are capital in character (i.e., expenditures considered to produce long-term savings or benefits, such as appliance rebates, loans, etc.), with accumulated AFUDC, in the utility's rate base at its next rate case. The costs are to be amortized over a period set by the commission.

(4) Escrow accounting--the accumulation, with interest, of costs, not capital in character, incurred between rate cases and not otherwise recovered through the utility's base rates, adjustment clause, or rate base, in a deferred account, to be amortized over a period set by the commission.

b. The commission will determine the appropriate mechanism for the recovery of costs associated with demand-side management programs when specific demand-side management programs are submitted for commission approval. Cost recovery for other integrated resource programs generally will be addressed in each utility's rate case.

2. Under appropriate circumstances, the utility may recover the net loss in revenues sustained by the utility as a result of successful implementation of full-scale demand-side management programs sponsored or instituted by the utility.

a. The net revenue loss is the revenue lost less the variable fuel and operating expenses saved by the utility as a result of not having to generate the unsold energy.

b. The commission will determine whether the utility will be permitted to recover the net revenues lost as a result of successful implementation of a full-scale demand-side management program and the form of the recovery mechanism. The determination will

~~be made when an application is filed for approval of the demand-side management program.~~

~~3. Under appropriate circumstances, the commission may provide the utility with incentives to encourage participation in and promotion of full-scale demand-side management programs.~~

~~a. The incentives may take any form approved by the commission. Among the possible forms are:~~

~~(1) Granting the utility a percentage share of the gross or net benefits attributable to demand-side management programs (shared savings).~~

~~(2) Granting the utility a percentage of certain specific expenditures it makes in demand-side management programs (mark-up).~~

~~(3) Allowing the utility to earn a greater than normal return on equity for ratebased demand-side management expenditures (rate base bonus).~~

~~(4) Adjusting the utility's overall return on equity in response to quantitative or qualitative evaluation of demand-side management program performance (e.g., adjusting the return upward for achieving a certain level of kilowatt or kilowatt-hour savings) (ROE adjustment).~~

~~b. The commission will determine whether the utility will be provided with incentives and the form of such incentives, if any, when specific demand-side management programs are submitted for approval. The utility may propose incentive forms for a particular program, based on the particular attributes of the program and the results to be attained.~~

~~c. The commission may terminate any and all incentives whenever circumstances or conditions warrant such termination.~~

## IV. PLANNING CONSIDERATIONS

### A. ~~Forecast~~Scenarios

Each utility, in consultation with advisory group(s), shall develop scenarios to guide integrated resource planning, including but not limited to possible assumptions, regarding future demand, the availability, characteristics and costs of resource options, and other principal factors that would affect the determination of prudent integrated resource plans. Scenarios may be based on circumstances outside the control of the utilities and commission (e.g., major increases in oil

prices) or within their control (e.g., a major resource strategy). A sufficient number and range of scenarios should be developed to (1) incorporate a broad range of perspectives and input from non-utility stakeholders and the public; (2) provide meaningful breadth to the scope of analysis and assumptions; (3) frame meaningful planning objectives and measures of attainment; and (4) test the robustness of candidate strategies with respect to a range of possible future circumstances and risks.

## B. Forecasts

Forecasts shall be conducted with respect to each scenario to inform the development of each utility's integrated resource plan.

### 1. Demand

a. ~~1.~~ The utility, in consultation with advisory group(s), shall develop a range of forecasts of the amount of energy ~~consumers will need~~demand over the planning horizon. ~~It shall develop forecasts for multiple scenarios that are necessary or appropriate in the development of its integrated resource plan. Among the scenarios are the base case scenario (a scenario based on the most likely assumptions), a high growth scenario, and a low growth scenario.~~

b. ~~2.~~ Each forecast shall identify the significant demand and use determinants; describe the data, the sources of the data, the assumptions (including assumptions about fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, and end-use), and the analysis upon which the forecast is based; indicate the relative sensitivity of the forecast result to changes in assumptions and varying conditions; and describe the procedures, methodologies, and models used in the forecast, together with the rationale underlying the use of such procedures, methodologies, and models.

c. ~~3.~~ Among the data to be considered are historical data on energy sales, peak demand, system load factor, system peaks, and such other data of sufficient duration to provide a reasonable basis for the utility's estimates of future demand.

d. ~~4.~~ As feasible and appropriate, the forecast shall be by the system as a whole and by customer classes.

~~5. The utility shall use all reasonable methodologies in forecasting, including, as practicable and economically feasible, the disaggregated end-use methodology.~~

### 2. Demand-Side Management

a. Energy Efficiency: The PBFA shall work with each utility and advisory group(s) to develop a range of forecasts of the potential development of energy efficiency programs over the planning horizon.

b. Load management: Each utility shall work with the PBFA and advisory group(s) to develop a range of forecasts of the potential development of demand response and load management programs, including rate and fee design measures, over the planning horizon.

3. Distributed Generation

Each utility shall work with advisory group(s) to develop a range of forecasts of the amount of distributed generation development and penetration via NEM, FIT, and other means.

## C. ~~B.~~ Objectives

1. The ultimate objective of ~~a~~each utility's integrated resource plan is to achieve and exceed Clean Energy Objectives in meeting the energy needs of the utility's customers over the ensuing 20 years.

2. ~~The utility may specify any other utility specific objective that it seeks to achieve through its integrated resource plan. For example, given the parameter of the State goal of less dependence on imported oil, the utility may set as an objective the achievement of lowering to a specified level the use of imported oil.~~Each utility, in consultation with advisory group(s), shall identify a meaningful set of planning objectives for its integrated resource plan and shall identify more specific, shorter-term objectives for its action plans to facilitate achievement the objectives of the integrated resource plan and provide benchmarks to measure progress.

3. The commission may specify ~~other~~ objectives for the ~~utility. Such specifications, if any, shall be included in the order opening docket for~~ integrated resource ~~planning at the commencement of each planning cycle~~plan or action plans.

4. An advisory group may recommend objectives for the integrated resource plan or action plans to the utility or the commission.

## D. ~~C.~~ Effectiveness Measures

1. The ~~utility~~integrated resource plan and action plans shall specify the measures by which attainment of the objective or objectives is to be determined.

2. Where direct, quantifiable measures are not available, ~~the utility may utilize~~ proxy measures may be used.

## E. ~~D.~~ Resource Options

1. In the development of its integrated resource plan, the utility shall consider all feasible supply-side and demand-side resource options appropriate to ~~Hawaii~~Hawai'i and available within the years encompassed by the integrated resource planning horizon to meet the stated objectives.

2. The utility shall include among the options the supply-side and demand-side resources or mixes of options currently in use, promoted, planned, or programmed for implementation ~~by the utility~~, as well as potential or planned retirements of existing resources in favor of clean energy resources. Supply-side and demand-side resource options include those resources that are or may be supplied by persons other than the utility.

3. The utility shall initially identify all possible supply-side and demand-side resource options. The utility may, upon review and consultation with advisory group(s), screen out those options that are clearly infeasible. ~~An option may be deemed infeasible where the option's life-cycle costs clearly outweigh its benefits or effectiveness under both societal cost-benefit and utility cost-benefit assessments.~~ The utility, in consultation with ~~the advice of the~~ advisory ~~groups~~group(s), may establish ~~such other~~ criteria for screening out clearly infeasible options.

## F. ~~E.~~ Data Collection

1. For each feasible resource option, the utility shall determine its life cycle costs and benefits and its potential level of achievement of objectives. The utility shall identify the option's total costs and benefits--the costs to the utility and its ratepayers and the indirect, including external (spillover), costs and benefits. External costs and benefits include the cost and benefit impact on the environment, people's lifestyle and culture, and the State's economy.

2. To the extent helpful in analysis, the utility shall distinguish between fixed costs and variable costs and between sunk costs and incremental costs; and the utility shall identify any opportunity costs.

3. The costs and benefits shall, to the extent possible and feasible, be (a) quantified and (b) expressed in dollar terms. When it is neither possible nor feasible to quantify any cost or benefit, such cost or benefit shall be qualitatively measured. The methodology used in quantifying or in qualitatively stating costs and benefits shall be detailed.

## G. ~~F.~~ Assumptions; Risks; Uncertainties

1. The utility shall identify the assumptions underlying any resource option or the cost or benefit of any option or any analysis performed.

2. The utility shall also identify the risks and uncertainties associated with each resource option.

3. The utility shall further ~~identify~~identity any technological limitations, infrastructural constraints, legal and governmental policy requirements, and other constraints that impact on any option or the utility's analysis.

## H. ~~G.~~ Models

1. The utility may utilize ~~any reasonable model or~~one or more generally accepted planning models or methodologies in comparing resource options and otherwise in analyzing the relative values of the various options or combinations of options.

2. Each model or methodology used must be fully described ~~and~~, documented, and explained in terms that a layperson can understand.

## I. ~~H.~~ Analyses

1. The utility shall conduct ~~cost-benefit and cost-effectiveness~~ analyses to compare and weigh the various options and various alternative mixes of options. Alternative mixes of options include variously integrated supply-side and demand-side management programs.

2. The utility shall conduct such analyses from varying perspectives, including, as appropriate, the utility cost-benefit perspective, the ratepayer impact perspective, the participant impact perspective, the total resource cost perspective, and the societal cost-benefit perspective.

3. The utility shall analyze all options on a consistent and comparable basis. It shall give the costs, effectiveness, and benefits of demand-side management options consideration equal to that given to the costs, effectiveness, and benefits of supply-side options. The utility may use any reasonable and appropriate means to assure that such equal consideration is given.

4. The utility shall compare the options on the present value basis. For this purpose, the utility shall discount the estimated annual costs (and benefits, as appropriate) at an appropriate rate. The utility shall fully explain the rationale for its choice of the discount rate.

5. The utility ~~may rank, as appropriate~~shall prioritize the various options and mixes of options based on the goal and principles set forth in Part II.A & B, supra, and upon such reasonable ~~criterion~~additional criteria as it may establish in consultation with ~~the advice of its~~ advisory ~~groups~~group(s).

## J. ~~I.~~ Resource Optimization

1. The utility, in consultation with advisory group(s), shall develop a number of alternative strategies to meet the planning objectives. Strategies may be based on any of various themes, including addressing specific scenarios or featuring specific resource options. A sufficient spectrum of strategies should be developed and analyzed to consider the scope of the identified plausible resource options and planning scenarios.

2. ~~1.~~ Based on its analyses, the utility, in consultation with advisory group(s), shall select those resource options or ~~mix of resource options~~strategies that best achieve ~~that level of effectiveness or that level of benefits specified in~~ the planning objectives ~~at the least cost. The utility shall also identify those resource options or mix of resource options that achieve the highest level of effectiveness or level of benefits at various levels of cost~~considered across the range of scenarios.

   a. The options or ~~mix of options~~strategies shall be selected in a fashion as to achieve an integration of supply-side and demand-side options.

   b. The selection of options or ~~mix of options~~strategies constitutes the utility~~'~~'s integrated resource plan.

~~2. The utility shall develop a number of alternative plans, each representing optimization from a differing perspective, including the perspective of the utility, the ratepayers, the non-participant, and society. It shall also develop alternate plans to meet the needs identified by each demand forecast scenario.~~

3. For each ~~plan~~strategy, the utility shall identify the revenue requirements on a present value and annual basis. It shall note the risks and uncertainties ~~associated with the plan. It shall also~~and describe the ~~plan~~'strategy's impact on rates, customer energy use, customer bills, and the utility system. It shall also describe the ~~plan~~'strategy's impact on external elements--the environment, people~~'~~'s lifestyle and culture, the State~~'~~'s economy, and society in general.

4. The utility shall rank the various ~~plans~~strategies, based on such ~~criterion~~criteria as it may establish in consultation with ~~the advice of its~~ advisory ~~groups~~group(s). The utility shall designate one or some combination of these ~~plans~~strategies as its preferred plan and submit to the commission the preferred plan as its proposed integrated resource plan~~,~~, along with the alternative plans. It is recognized that the proposed integrated resource plan may not be the least expensive strategy and may include resource options and/or contingency measures to reasonably attain the planning objectives in light of uncertainty regarding the planning scenarios.

### K. ~~J.~~ Sensitivity Analysis

The utility shall subject its selection of resource options to sensitivity analysis by altering assumptions and other parameters.

## ~~V. PILOT DEMAND-SIDE MANAGEMENT PROGRAMS~~

### ~~A. Purposes~~

~~1. A purpose of piloting demand-side management programs is to ascertain whether a given program, not yet proven in Hawaii, is cost-effective whether it will have the penetration and will achieve accomplishment of the utility's objectives as originally believed.~~

~~2. A second purpose of piloting demand-side management programs is to determine whether the program design and configuration (including how it is managed and promoted) are such as to permit implementation of the program as efficiently and effectively as desired.~~

### ~~B. Utility Pilot Programs~~

~~1. A utility may implement on a full-scale basis (without pilot testing) any demand-side management program that has been proven cost effective as a result of a full-scale or pilot implementation of the program in another comparable utility service territory or as a result of pilot testing by a utility in Hawaii. In all other case, the utility shall pilot test a demand-side management program before implementing it on a full-scale basis.~~

~~2. Each utility shall develop appropriate pilot demand-side management programs for implementation without awaiting commission approval on its initial integrated resource plan. For each program, the utility shall clearly articulate the parameters of the program, the objectives to be attained by the program, the expected level of achievement of the objectives, the measures by which the attainment of the objectives is to be assessed, the data to be gathered to assist in the evaluation of the pilot program, and the expenditure it proposes to make by appropriate cost components.~~

~~3. All proposed pilot demand-side management programs are subject to commission approval.~~

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on this date, a copy of the foregoing document was duly served by first-class postage prepaid mail and electronic mail to the following parties addressed as follows:

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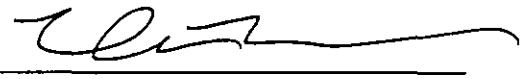

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